

# American Aviation

The Independent Voice of American Aeronautics

FEBRUARY 1, 1945

## Dyspepsia in London

IF THE British press is to be believed, the International Aviation Conference at Chicago last November was a complete failure.

*Fortnightly Review*

Most of the criticisms in the aviation and lay press seem to boil down to the

bold fact that the British proposal of dividing up the world air commerce was not adopted by the United States.

This country has been chided many times in the past few decades for being isolationist and not wishing to take a place in world affairs. Yet it would seem from British reaction to the Chicago conference that the only eligibility to international affairs is to agree wholeheartedly with the British. If we shy away from world affairs we're corn-country hicks. If we do speak up and take a stand, then we're pushing the world out of our way. It doesn't make sense.

We prefer to take at face value the statement by Lord Swinton to the House of Lords "that a great deal besides disagreement was achieved at Chicago," rather than to consider as representative of British opinion the ill-considered and inconsistent diatribe against the U. S. in *The Aeroplane* for December 22.

Someone on *The Aeroplane* got awfully mad at the U. S. position on international air commerce, although the same sentiments seem rather generally sprinkled over British newspapers as well. But *The Aeroplane* got so mad that it forgot that the British delegation headed by Lord Swinton actually favored bilateral agreements for intermediate traffic, and came out heatedly blaming the U. S. for continuing to belabor the bilateral procedure. Actually,

(Turn to page 6)



Chamber PAC Chairman

Don Flower has been elected chairman of the Personal Aircraft Council of the Aeronautical Chamber of Commerce. He is sales manager of Cessna Aircraft Co. of Wichita, Kan. (See story on Page 50.)

## Late Bulletins

### Rehearing Denied

The CAB has denied the petitions of United and TWA for rehearing of the Board's decision awarding the Denver-Los Angeles route to Western. The next step could be for either United or TWA to appeal to the U. S. Circuit Court of Appeals or file applications for the identical route awarded Western.

### TWA Offers 5% Discount

TWA filed Jan. 25 with the CAB a proposal to provide 5% discount on passenger fares to holders of volume travel cards. No blanket fare reduction was included in the TWA plan. (Details of AA and UAL fare cuts on page 55)

**Work or Fight:** Reaction of the T-F draft and "work or fight" order on the aircraft industry indicates an upward trend in hirings of men, both in number and quality, as well as an encouraging outlook in the number of man job terminations.

Personnel executives, however, believe the full effect of the Government's stand on manpower cannot be effectively evaluated for several weeks and point out that the need for more workers will become greater under increased schedules.

Douglas reports that during the first 10 days of January the Santa Monica plant averaged a 50 per cent increase in men hired and a 50 to 60 per cent decrease in terminations over the first 10 days of December. At North American's Inglewood plant, men hired in the draft age group increased 25 per cent during the first week in January. The percentage of men employees at Lockheed jumped from between 40 and 45 percent as of six weeks ago to 56 per cent the second week of January, and the increase is continuing.

At Consolidated Vultee's Downey plant which for the last months has been concentrating on hiring men due to job requirements, the trend is not so great. Through November and December, men hired were 69½ per cent, while since Jan. 1 men represented 72¼ per cent of the total.

**Moving Ahead:** John E. P. Morgan as chairman of the management committee is really top man at the Aeronautical Chamber of Commerce during the lack of a permanent manager, particularly when Eugene E. Wilson, president, is unable to be at the Washington headquarters. Wilson maintains active executive supervision, but Morgan is his right-hand man and is keeping the wheels going around in a manner which has drawn unstinted praise from Wilson and other Chamber officials. Morgan also has the title of manager of the Personal Aircraft Council of the Chamber, but Joseph T. Geuting Jr. as acting manager is performing the full duties of that branch with the assistance of Don Mockler. The appointment of a Chamber manager may await the end of the war.

(Turn to page 4)

25c



## A FOXHOLE TENANT HAS SOMETHING TO SAY!

"Ever spend a weekend in a foxhole . . . No? Well . . . until you have, it's pretty hard to understand what those lads in "that wild blue yonder" really mean to us guys slogging along in the mud . . . Here's a quickie . . . so you'll see what I mean. Back around what the folks at home call Holiday Season, our outfit is makin' time towards Mr. Siegfried's line, when the weather decides to turn zero-zero . . . Then, a foxy gent named von Rundstedt threw the works at us, all schedules for Berlin went haywire, and speaking for our cocky spearhead in particular, we dug right in fast . . . and just tried to stay alive . . .

"For three long days . . . and longer nights . . . we were cold, hungry, miserable, and let nobody kid you . . . scared . . . plenty scared . . . for old man despair sure clamps down when you're forced to sweat it out that way . . .

"... Late the third day . . . it seemed a year . . . the pea soup drifted away, the sun poked thru the



clouds . . . and then . . . man oh man . . . those Thunderbolts came down. . . Prowling tanks and cunningly hidden machine guns just went right out of business . . . road blocks that had held us helpless went the way of the other horrors . . . Heinie's fire began to slack off, and those of us who could, crawled out, got organized, and went into high once again. Me, I'm an infantryman, and that's the top outfit in my book . . . but I gotta hand one thing to those "buzzards . . . when it comes to paving the way over a tough spot, they're the all time, all American steam rollers."

**\* REPORTS FROM ALL BATTLE-  
FRONTS STRESS THE VITAL CON-  
TRIBUTIONS OF THE THUNDERBOLT  
TO EVERY PHASE OF COMBAT....**



# REPUBLIC AVIATION

CORPORATION

Makers of the Mighty Thunderbolt

Farmingdale, L. I., N. Y. - - Evansville, In

# GOOD YEAR AIRCRAFT PRODUCTION REPORT



CONTRACT: W33-038-AC109

## BOEING B-29 (Superfortress)

750 SETS: FORE AND AFT BOMB BAY SECTIONS,  
WING CAP SECTIONS, EMPENNAGES

INITIAL CONTRACT RECEIVED: *AUGUST 1943*

FIRST PRODUCTION UNIT DELIVERED: *MARCH 1944*

100TH PRODUCTION UNIT DELIVERED: *NOVEMBER 1944*

REMARKS: Conversion to B-29 production was effected without interrupting completion of B-26 contract in same plant. Although change-over involved building more than 8,500 tools and schooling of hundreds of employees in B-29 processing, first units were delivered full month ahead of schedule. Orders for 30 modifications in original design led to Goodyear's development of "quick-fix" method of making these changes without stopping production line—an achievement that is speeding deliveries of these essential components.

Goodyear is building components for 16 different Army-Navy types of aircraft, including complete airships and Corsair fighters.



GOODYEAR AIRCRAFT CORPORATION, Akron, Ohio

Litchfield Park, Arizona



(Continued from page 1)

**Union Issue**—A straw in the wind as to what may be done about the ticklish question of seniority where men are switched into essential plants under War Manpower orders, was seen last fortnight in action taken by the National War Labor Board.

In a question raised at Bendix Aviation Corp., Norwood, Mass., the Labor Board directed that the seniority of any employee who is released for employment in another establishment in response to a request or order of the War Manpower Commission shall be preserved and shall cumulate in the same manner as if he remained in the company's employ.

The Board's directive provides that any employee so transferred (and who wishes to claim his accumulated seniority) must, within 15 days after the end of the period of required absence, notify the company of his availability for reemployment and show a U.S.E.S. certification that his release and transfer were at the request or order of WMC and that he remained at the establishment to which he was transferred during the period of his absence.

Supplementing a previous regional WLB directive, this order is expected to establish a substantial precedent.

**Aluminum Troubles**—From the manufacturer's standpoint, conferences between production and Government people during the past fortnight over the distribution of shortened stocks of aluminum, were among the most important developments of the period. Generally speaking, both Government and industry now feel that the aluminum problem can be licked by measures suggested by industry through the Aircraft War Production Councils and approved for the most part by the Aircraft Scheduling Unit.

WPB Chairman J. A. Krug said that deficiency in the present production of the various commodity breakdowns can be met by drawing upon existing stockpiles, and adequate machine capacity exists for the production of anticipated requirements in fabricated aluminum products. Manpower alone will be the final determining factor, a need of 9,000 new workers being indicated.

To assure the most useful distribution of the supplies now existing, aluminum inventories will be restricted to a 30-day supply. With respect to the first quarters, for which orders were already placed, each Procurement District began a check with the major contractors with a view to cancelling all orders which, if received, would result in more than a 30-day inventory.

For the second quarter, all outstanding allotments were to be cancelled, and new allotments made on the basis of the seven breakdowns (sheet, forgings, extrusions, etc.). Col. E. W. Rawlings, administrator of ASU, said that contractors must adjust their April orders with the mills by Feb. 10. Mills are to reopen their schedules for acceptance of orders as soon as the new second quarter allotments are issued.

**Postwar Cut to Bone**—Army telegrams sent to district procurement offices, warning that less attention be permitted paid to postwar commercial aircraft, brought prompt co-operation from manufacturers. Manpower use for building mockups of commercial planes, already small, was cut still further. In instances where such work was continued, permission was obtained from military authorities. Had this Government move failed to concentrate all efforts on war production, more drastic measures were considered. An Army Air Forces official said that the War Production Board might be asked to further curtail plans and activities relating to civilian production.

**Secrecy Increased**—With the tightening up all along the line on military production in keeping with the tempo of the war, aircraft manufacturers have posted notices warning their employees not to talk about secret planes on which they are working. Employees, previously alarmed over termination and reconversion problems, naturally had to be told some things about the large new contracts awarded the plants for new type planes to keep the employees on the job. Now, that they know they have huge production schedules to meet, they are being urged to let the enemy learn about the improved planes first when they get hit with them.

**International Movie**—It is expected that Secretary of State Edward R. Stettinius' public relations experience with General Motors and U. S. Steel will find considerable application in his new work. Being considered is a motion picture to educate Americans on the importance of international undertakings by the State Department.

# American Aviation

The Independent Voice of American Aeronautics

Vol. 8 No. 17

February 1, 1945

'Culture' to Dictate Overseas Routes	17
Pogue Sees Airlines Aiding Shipping	21
2 Agencies Tackle Radio Problem	23
PAA, AMEX Favored for Overseas Lines	24
UAL, American File Fare Cuts	55

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ESTABLISHED 1919

# Guiberson

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GUIBERSON DIESEL ENGINE COMPANY  
DALLAS TEXAS

(Continued from page 1)

it was the U. S. that wanted to dispense with as much bilateral dealings as possible.

"For four years the United States Government has systematically saturated the world with air transport propaganda," *The Aeroplane* shouted in describing the research and expansion undertaken by this country. "Never before in history has a nation maneuvered itself into a position of such overwhelming advantage for the propagation of its overseas trade . . . The attitude of the United States at Chicago was obviously dictated by the prospect of this glittering prize. No amount of eyewash about making air transport available to 'the common man' will deceive the cynically inclined people of a disillusioned and war-weary world." And more of the same.

What is it that has made the British press rise up in arms so violently? Is it fear that the U. S. will dominate the air trade routes of the world? Is it jealousy that we have—for once—a surplus of one type of equipment for international transport? Is it a realization that the United States which has been called upon to aid in putting out international conflicts, is finally showing a desire to participate in world affairs in peacetime?

We think it is a combination of several things. One is certainly a lack of conception of what this country, and the American air transport industry, believe to be good in air transportation, i. e., the ability and desire to go out and "sell" and utilize air transportation rather than to sit down and divide up whatever traffic happens to come along. Another is a fear that U. S. airlines will gobble up all the world air business.

The latter is slightly ludicrous. What we do want is the right to carry our own people to their destinations around the world instead of the necessity of traveling on foreign lines as they did before the war.

But *The Aeroplane*, in decrying our military transport experience, has failed to mention the great many obstacles the British have placed in our way every time we wanted to build an airfield or install a radio station or otherwise improve the modest facilities available. Right now there is a hefty battle going on in a Middle East country with the British putting every conceivable obstacle into our building an airfield of vital necessity to our ferrying of bombers and fighters to the Far East. We may have expanded our military routes, but much of the time we've done so with difficulty despite the war needs. How many stories returning Army men have told!

No, it isn't a question of the U. S. wanting to dominate the world air routes. It's purely a question of the United States being able to squeeze out enough concessions to get to operate at all. Does *The Aeroplane* make mention of the restrictive quota proposal by the British at the Chicago conference? Does it know that we would not have been able to operate beyond the first port of call abroad under this proposal? Does it call such a quota proposal real international collaboration?

The big advantage in world air commerce remains with the British. The possession of airplanes is only the means to an end. It is the end—the right to engage in air commerce—that presents the tough problems. We have no Commonwealth, no Empire, no convenient round-the-world link. All we want is the right to participate in world air commerce and we've earned that right. If we want to carry our own people where they want to go, is this a crime against the world? Do we always have to pave all the runways and pay tolls, too?

(Turn to page 9)



## “ Something tells me we're not over Indiana ”

If you were to ask expert opinion as to what is responsible for the rapidly expanding *range* of aircraft you would get many answers.

An aerodynamics expert would point out the increased efficiency of new airfoil designs. An engine designer probably would point with pride to modern engines. A propeller expert might show the part his specialty plays.

You probably wouldn't find anyone outside of the petroleum industry who would mention *gasoline* . . . or Ethyl fluid.

Yet the gradual stepping up of aviation gasoline from about 65 octane to 100 and upwards through new refining methods and the use of Ethyl fluid, is one of the basic reasons for greater and greater flying range.

A tank full of 100-octane gasoline weighs no more than a tank of 90 octane gasoline. It takes up no more room. Yet in combination with engines designed for high-octane fuels, the tank of 100 octane may be worth up to a tank and a quarter full of 90 octane in extra range.

What the equivalent of tankfuls of future higher antiknock gasoline will be, no one can say. But an important factor in future air-travel, whether military, commercial or private, is the rapid improvement of aviation gasoline.

*Ethyl Corporation*

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## ANSWERING THE QUESTION:

# "Should I Use Constant Volume or Variable Volume Aircraft Pumps?"

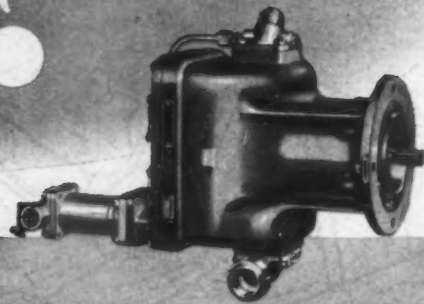


### WHEN TO USE

## VICKERS CONSTANT VOLUME

### PISTON TYPE PUMPS

This pump requires an accumulator and unloading valve in the majority of aircraft hydraulic circuits. The fixed-stroke pistons deliver fluid continuously to the unloading valve. The unloading valve automatically opens when the accumulator has received and stored its maximum volume of fluid at system pressure; the pump then operates at no pressure by returning oil directly to reservoir. When the accumulator pressure drops to a predetermined minimum, the unloading valve automatically closes and diverts the oil to charge the accumulator. This constant volume pump is recommended when hydraulic power is required for short periods during take-off and landing . . . when operating flaps, landing gear and power brakes. It also supplies any small demand during flight . . . like cowl flap actuators. And it takes care of normal requirements while on the ground . . . including parking brakes and cargo door operation.



### WHEN TO USE

## VICKERS VARIABLE VOLUME

### PISTON TYPE PUMPS

This pump automatically delivers the volume of fluid required by the hydraulic system. When the requirement decreases, the stroke of the pistons is automatically shortened; when more volume is needed, the piston stroke is automatically lengthened. There is no inlet restriction to cause cavitation. An excess of fluid is *never* pumped. The pump maintains full pressure in the system with minimum horsepower. An integral pressure control device automatically and continuously maintains the desired pressure independent of varying volume demand and of engine speed. This variable volume pump is recommended when hydraulic power is used continuously during flight . . . as for power boost flight control, gun turret drive, and cabin supercharger drive.

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(Continued from page 6)

## U. S. and the War

**I**N CONTRAST to Great Britain, the U. S. remains sluggish in maintaining commercial communications with various parts of the world. Airmail letters to South America require as much as two weeks. Air express requires from three to five weeks. Regular mail takes two or three months. Yet mail and periodicals from England require only four or five weeks, with much greater transport difficulties. The fault is not with either airline or surface carriers, but with a lack of over-all wartime policy.

## Old Argument Revived

**O**UR BRITISH contemporary, *Flight*, revived for the umpteenth time in a recent issue the relative efficiency of the British and U. S. bombers and seems, again, to have missed the point.

It pointed out that the U. S. Eighth Air Force reached a new high level when it sent 1,600 Fortresses and Liberators, with a fighter cover of 800, to bomb targets in Germany. The Eighth had 16,800 airmen in the raid and dropped 4,000 tons of bombs.

*Flight* says that 16,000 airmen could have flown 2,285 Lancasters and Halifaxes (plus 800 men for fighter escort) and could have dropped 11,127 tons of bombs.

The reason for this "discrepancy," it says, is that conservation of manpower was Britain's major problem when its planes were designed, but "With the Americans it has been different . . . Manpower in the Allied ranks was no longer a problem after Russia had contributed such a magnificent share by smashing the Wehrmacht."

No one disputes the fact that the Lancaster and the Halifax bombers carry heavier bomb loads than do our B-17's and B-24's, but just who did *Flight* think was going to knock the Luftwaffe out of the air? British bombers are now making trips over German targets in the daytime, but aside from a few daring raids in the earlier days, British bombers could not venture out in daytime against German fighter strength. The Germans paid no attention to British fighter sorties. Somebody had to go over Germany and force up the German air force. The battles were costly. The job had to be done. Only the Eighth Air Force could do it. The British have done an excellent job of bombing Germany at night, but where would the invasion of France have been if the German air force had still been maintained in strength? The boys who went over in the B-17's and B-24's in broad daylight, hitting specific vital targets and forcing the Germans up to fight, can give the answer.

No one yet has been able to provide maximum firepower and maximum bomb load in the same airplane. Our bombers were designed for world-wide operations (we've got a war on in the Pacific, too, we hear) and no one claims that they are without defects. The British-U. S. combination of heavy night bomb loads by British bombers and heavy firepower actions by American bombers, has worked very well. At this late date it's senseless to talk of differentials in efficiency, and especially in terms of surplus manpower.

The U. S. has no more desire to throw away its manpower than does any other country.

"It's a good thing, this preponderance of material and manpower, but it must not be mistaken for super-efficiency," *Flight* concludes. Efficiency for what? In wartime, we might add, it is the air force that has the ability and guts to knock out an enemy air force that is efficient. The British proved it in defending Britain in 1940. But on the offensive over Germany, British night bombing could have gone on indefinitely without either being decisive or in knocking out the Luftwaffe. The Eighth Air Force went at it the hard way because it was the only way it could be done. Somebody had to do it, inefficient or not. We are sorry to see *Flight* take such an unfair slant on our use of manpower.

## Something Wrong

**T**HE PUBLIC pays three cents for a first class postage stamp. The railroads carry this first class mail at about forty miles an hour for twenty-eight cents a ton mile.

The public pays eight cents for an airmail stamp. The airlines carry this airmail at about 160 miles an hour for sixty cents a ton mile.

This would seem fair enough.

But the Civil Aeronautics Board proposes to reduce the payment to the major airlines from sixty cents to thirty-two cents a ton mile.

The public is getting short-changed somewhere.

As for the industry—well, it would merely go into red ink.

The Board better do some more figuring.

## Commendable Speed

**T**HE SPEED with which the Civil Aeronautics Board is handling international air route cases is worthy of much commendation. Although we find ourselves in frequent disagreement with the Board, we believe that the five members are treating their international responsibilities with wisdom and urgency. The need for action has been evident. We are glad that the Board is not wasting any time in disposing of new route decisions as rapidly as possible under the law. The setting of a date for oral argument, February 28, on the North Atlantic case when the examiner's report was issued only on January 22, is unprecedented speed. We hope the pace continues.

## Horse Races

**I**N A RECENT column Mr. Damon Runyan, the newspaper writer, takes issue with Byrnes' order requesting the closing of all race tracks and calls it "a belated gesture that means nothing now." Mr. Runyan is a habitue of New York. He should have been in California when the tracks were open and seen for himself what racing does to aircraft production. Means nothing? Of course the order should have been issued long, long ago. But it isn't too late by a long shot.

WAYNE W. PARRISH

## Letters

### 'Double Action'

Washington.

To the Editor:

I read with interest the editorial in *American Aviation* for Jan. 1, under the title, "Transport Under Fire." I was particularly glad to see your comments on the work that is being done by transport personnel into Leyte, because I was there just about a month ago and saw those planes arriving and departing with regularity. I am sure you will be extremely interested when I tell you that every transport plane that departs from Leyte carries sick and wounded Americans eastward where they are certain to receive the finest medical treatment our medical services can provide. So, they are performing a double action service; namely, moving mail and high priority supplies into the war area and bringing back, with speed and safety, our wounded.

H. L. GEORGE,  
Major General, USA,  
Commanding,  
Air Transport Command.

### Landplane vs. Flying Boat

Detroit.

To the Editor:

Maybe I'm screwy but it seems to me the landplane advocates have a 10-strike in the new Boeing C-97 in contrast to the Martin Mars.

According to all the figures I've been able to put together on the two planes, the C-97 has a basic weight empty of about 70,000 lbs., a design gross weight of 130,000 lbs., leaving a useful load of 60,000 lbs.

The larger Mars has a basic weight empty of about 70,000 lbs., a design gross weight of 140,000 lbs., leaving a useful load of 70,000 lbs.—10,000 lbs. more than the C-97.

Yet the C-97 carried a more than 20,000 lb. payload on its transcontinental flight while taking off at 125,000 lbs.—5,000 under design gross, whereas the Mars carries an average of 26,000 lbs. payload on the comparable

Alameda—Pearl Harbor run, and is reportedly operating at from 130,000-142,000 lbs.

Both airplanes are powered with the same engines, yet the C-97 made its run in just over six hours as against the 12-14 hours required by the Mars for the Pacific run. Those additional hours mean a lot of gas at six lbs. per gallon. Speed supplies the answer to this seeming paradox that the plane with the greatest useful load does not necessarily carry the greatest payload. Can the flying boat experts tell me where I'm wrong?

C. V. H.

### 'Old Timer' Appreciative

St. Petersburg, Fla.

To the Editor:

We have a new name and organization but we are old timers in the aviation game.

Your article published in the Dec. 1 issue with reference to the application submitted to the CAB is very much appreciated.

I have been studying air feeder possibilities for quite a few years. From that study it is obvious with the growth and expansion of facilities, I feel, that the smaller cities not only need air service but are entitled to it.

However, I do believe that the optimism and the hurrying of the operation of the proposed routes should be delayed until the victorious end of the war is closer at hand.

There are a great deal of older experienced servicemen like myself now fighting overseas who dream and plan to participate in national planning of air feeder services. In fact, I was quite astounded to return to the U.S.A. and find that future plans had not considered us except in the employee classification.

PETER HUBERT,  
Florida Aviation Engineering Service.

### Plug for Everett

Everett, Wash.

To the Editor:

We wish to know whether any company is contemplating the establishment of an air freight service. Everett is most remarkably located to become the terminal of such a service, having the possibilities of a large air field right next to deep sea docks, making it possible for air shipments of freight from points in Canada, Montana, Idaho, and Washington to load directly into the holds of the ship.

While other cities are interesting themselves in numerous airports for passenger transportation, we have a feeling that our position here is of very strategic importance for a freight terminal.

We would appreciate any information you can give us regarding the organization of such an air freight company.

C. K. WARNE,  
Executive Secretary,  
Everett Community & War Chest.

## Obituary

### Howard S. Welch

Howard S. Welch, 52, export sales manager of Sperry Gyroscope Co. and chairman of the export committee of the Aeronautical Chamber of Commerce, was killed Jan. 11 in an automobile accident in Montreal. Welch had previously been vice president and general manager of the export division of Bendix Aviation Corp. and at one time served as chief of the automotive-aeronautics trade division of the Bureau of Foreign and Domestic Commerce. Wood T. Henry of Sperry's Washington office was badly injured in the same accident and is in a Montreal hospital.

## Books

**PIONEERING THE HELICOPTER.** By C. "Les" Morris. McGraw-Hill Book Co. Illustrated: 160 pp. \$2.75.

Here is an important bit of aeronautical history presented informally and unpretentiously in a book that was a pleasure to read and is a genuine pleasure to recommend.

Igor Sikorsky has written a foreword and Les Morris, who left his post as commissioner of aeronautics for Connecticut to join Sikorsky as test pilot for the Sikorsky helicopter, has told the story of the VS-300 from its inception to its placement in the Dearborn Museum. In telling the story of the VS-300, Morris has also told the story of the development of the helicopter in the United States, a development as historic as any in aviation history.

You'll enjoy it from beginning to end. The photographs are especially good. One can hardly imagine a more complete history of an airplane. It has all the color of pioneering and all the anecdotes that go with such adventures. Morris is fully confident of the helicopter's future but has his feet on the ground when discussing its possibilities. Any one who maintains any sort of aeronautical library certainly will want this book.

W. W. P.

**BLADES FOR VICTORY.** The Aeropropeller Division of General Motors, Dayton, O.

Here is another hard-backed book beautifully printed and excellently illustrated to tell the story of a war plant and the product it makes. How Engineering Products, Inc., headed by W. J. Blanchard and Charles J. MacNeil, was taken in tow by General Motors and a new plant built to produce a new type of hollow-steel propeller, is well told. The photographs are very good. "From an Ohio cornfield to every global battle front in less than three years" is the appropriate slogan.

W. W. P.

**CARE AND USE OF HAND TOOLS.** By R. L. Toliver. Edited by W. C. Lewis. 214 pp. \$1.25. John Wiley & Sons, New York.

The material in this book was first compiled for training beginning employees at the Wichita plant of Boeing Airplane Co., and has also been rewritten in more general form for use by pre-production industrial training courses and high school shop classes. Each tool is taken up individually with a description of types and sizes, right and wrong ways of handling, care of the tool, and safety precautions to be observed in its use. Profile illustrations supplement the simply worded text. A course of 14 suggested lessons for use by instructors is included.

**AIRCRAFT VIBRATION AND FLUTTER.** By C. R. Freberg and E. N. Kemler. 214 pp. \$3.00. John Wiley & Sons, New York.

The fundamentals and general phases of vibration and flutter as applied to the plane structure and its parts are presented with a minimum of theory. Emphasis is placed on physical interpretation and application, and on the solution of problems. Methods described are such that they can be applied by the engineer without a background of advanced mathematics. The first part of this book deals with the application of general principles to simple plane vibration problems, while problems involving aerodynamic forces are discussed in later chapters.

**AIRCRAFT MECHANICAL DRAWING.** By D. J. Davis and C. H. Goen. 245 pp. \$2.50. McGraw-Hill Book Co., New York.

Authors Davis and Goen have compiled a comprehensive elementary textbook from their experience in training draftsmen for Douglas Aircraft Co. Designed for the beginner who

## New Booklets

An illustrated booklet on "Flying Bombs" and the steps taken by the British Government to combat them, starting with the RAF attack on Peenemunde and carrying through the various defense measures, has just been issued by British Information Services, 30 Rockefeller Plaza, New York 20, N. Y.

The Cleveland Aviation Club, 1524 Guldhall Building, Cleveland, O., has issued a special booklet commemorating the organization's 25th anniversary. It includes a resume of the club's activities, a roster of membership, and prospects for postwar expansion in aviation. John R. Bloss is secretary-treasurer of the organization.

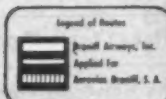
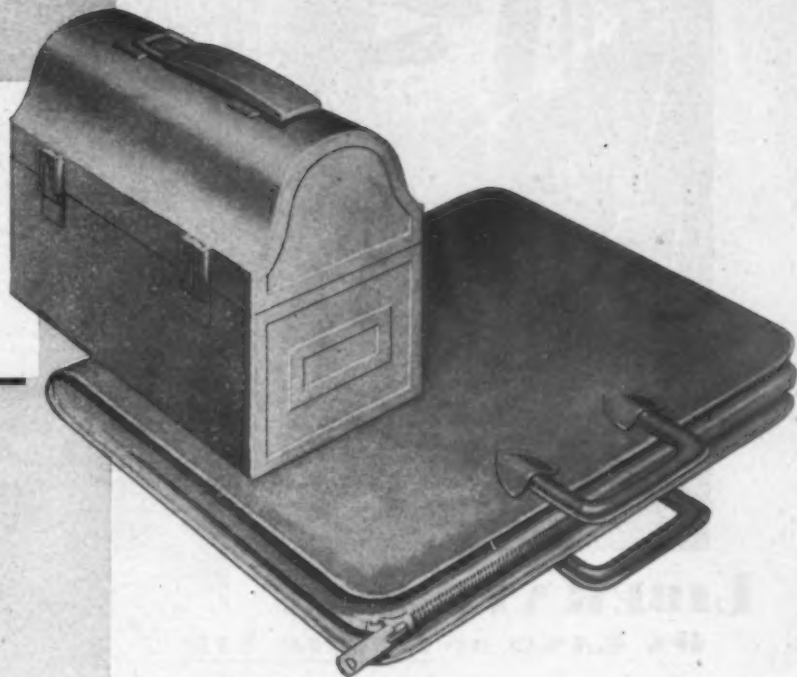
Railway Express Agency has issued a new booklet, "Quizical Quiz," containing the answers to various questions frequently asked about air express and air express service for transportation of shipments. Copies may be obtained from REA's department of public relations, 230 Park Ave., New York 17, N. Y.

Past, present and future receive equal attention in the 75th Anniversary Book just issued by The Standard Oil Co. (Ohio) to commemorate its birthday Jan. 10. The text divides the company's life since 1870 into the lamp, automobile and airplane eras, and suggests readable aircraft among other postwar possibilities.



"The airplane already has started an interchange of goods, services and monies between regions hitherto inaccessible. It can revolutionize commerce worldwide, and be reflected in the U. S. with greater employment."

T. E. BRANIFF



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39,000,000 people keep the wheels of U. S. wartime industry turning. Expanded air transportation will help maintain this level of employment after the war by stimulating new commerce at home and abroad.

To this end, Braniff Airways, Inc., and Aerovias Braniff, S. A., propose a system of coordinated air service for our hemisphere. The routes planned will develop trade between the Americas, stimulate production and distribution, and assist in maintaining the full employment that will benefit us all.

# BRANIFF AIRWAYS



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The skilled manpower facilities and equipment of Aircraft Mechanics, Inc., throughout the war period are producing precision parts for the air forces of the United Nations. Liberators, both on the land and in the air, use many of the items fabricated in our high tensile forging and welded tubular assembly activities.

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**DESIGNERS... ENGINEERS... MANUFACTURERS**

has no more than an elementary knowledge of algebra and geometry, this book leads the student step by step through the fundamentals of aircraft mechanical drawing. Aircraft parts are used wherever possible for examples and exercises and as each new subject is taken up, the student is told not only how to do things, but why they must be done that way to meet aircraft manufacturing needs. While frequent exercises are included, this book is designed as a classroom text to precede **AIRCRAFT DETAIL DRAFTING** by Norman Meadowcroft of Douglas (McGraw-Hill Book Co., New York) rather than as a home study course.

### Twenty-five Years Ago

C. J. Zimmermann of Keyport, N. J. took off and landed an Aeromarine 40-L Flying Boat on the ice at Baritan Bay. (Feb. 2, 1920)

A consignment of Curtiss HS-2-Ls, Curtiss H-16s and several Aeromarine and Boeing flying boats and parts, worth a half million dollars, was shipped to an aerial transport company in China. (Feb. 4, 1920)

An aerial post was started between Helsingfors, Finland, and Reval, Russia. (Feb. 7, 1920)

Sadi Lecointe, flying a Nieuport biplane at Villacoublay, was reported to have made a speed record, under new regulations of the F. A. I. He covered the kilometer course in both directions at 171.3 mph. (Feb. 7, 1920)

### Fifteen Years Ago

New York University began a special intensive course of eight weeks in the training of teachers for aviation ground schools, with classes meeting five times a week. (Feb. 1, 1930)

The Smithsonian Institution loaned the New York Times a model made from plans drawn up by Leonardo da Vinci in 1490 for an airplane. This model will be exhibited at the New York Aviation Show to be held Feb. 7-15. (1930)

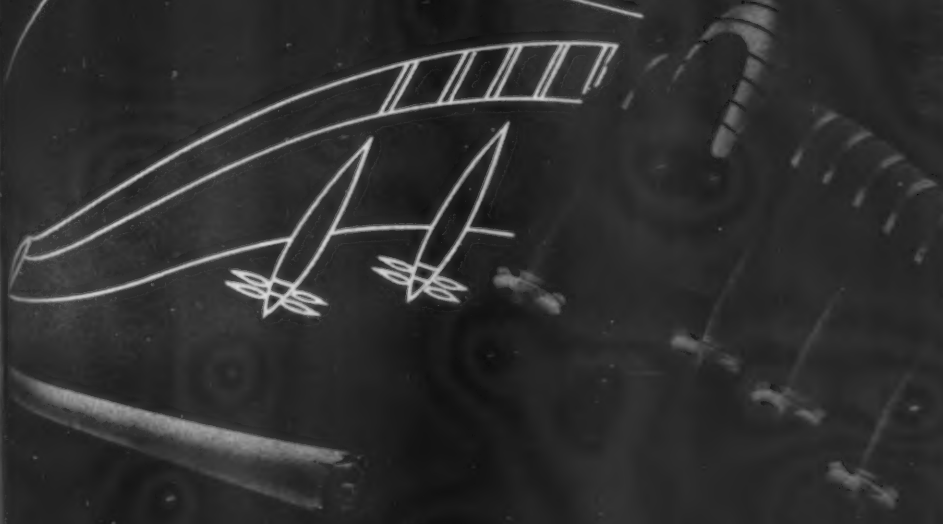
The Committee on Aeronautics of the National Chamber of Commerce is to give particular attention to the development of the glider movement, promotion of uniform state legislation covering intrastate flying, aeronautical insurance, and the preparation of a Chamber of Commerce Air Manual. (Feb. 1, 1930)

The U. S. Coast and Geodetic Survey has published nine strip maps during the past year and has seven more in progress and 27 projected. (Feb. 1, 1930)

Appropriations amounting to \$72,833,883 for the Army Air Corps for the fiscal year 1931 are recommended in the annual War Department Appropriations bill reported to the House. (Feb. 1, 1930)

FOR TOMORROW'S JOURNEY...

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**JACK & HEINTZ**  
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Jack & Heintz Inc., Cleveland, O., manufacturers of aircraft

A large, dark, stylized illustration of a foot wearing a black shoe, stepping down onto a map of the United States. The foot is positioned on the left side of the page, with the heel about to land on the map. The map shows the outlines of the states, with several small airplane silhouettes flying over it. The background is dark and textured, suggesting a night sky or a rugged surface.

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The great airplanes in which you will flash across seas and continents after the war are not just a dream on a drafting board. For Boeing's new Stratocruiser is a streamlined reality, actually flying today, in its Army transport version, the C-97. It broke all existing records in a recent transcontinental flight from Seattle to Washington, D. C.

This giant sky-liner is the first of the super-transporters of the future to take to the air. It is even bigger than the Boeing B-29 Superfortress—America's mightiest bomber.

With more four-engine experience than any other manufacturer, Boeing has given the Stratocruiser unique advantages in safety, comfort, performance

and ease of control—all springing from the design, production and field service study of the Flying Fortress and Superfortress, the Stratoliners and Clippers.

The Stratocruiser is a versatile airplane. The double-deck, three-cabin design gives flexibility of interior arrangement and ready interchange between cargo and passenger-carrying capacity.

As a high-speed, low-fare transport, the big ship can comfortably seat 100 passengers. As a luxury sleeper plane, it will have 72 seats or 36 berths on the upper deck, and a lounge and dining salon seating 14, crew quarters and cargo space below.

With an operating range of 3500 miles, the Boeing Stratocruiser can fly

non-stop from New York to London with abundant reserves of fuel. Its top speed of 400 miles an hour and cruising speed of 340 miles an hour will enable passengers to leave the East Coast at noon and dine on the West Coast. And its pressurized cabin maintains comfortable conditions even in high-altitude, over-weather flight. Also, it is the most economical long-range land plane ever built.

When victory is won, the same skill in design, engineering and manufacture which have established Boeing leadership in the big bomber field will bring comparable strides in air transport. You can be sure . . . if it's "Built by Boeing" it's out in front.

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**BOEING**



## 'Culture to Dictate Overseas Air Routes'

### Crozier's Report Deals in Air Traffic Potentials Based on Shipping History

By KENNETH E. ALLEN

**THE GREAT PROPORTION** of overseas travel generated in the Western Hemisphere will continue to move across the Atlantic "between those parts of the new world and the old which have a common cultural heritage," according to a study of overseas air service patterns released last fortnight by F. H. Crozier, chief of the CAB's Research and Analysis Division.

The report covered travel distribution and composition of all world areas under the following subjects: (1) Regional distribution of total travel by transit areas; (2) Regional distribution of potential air travel; (3) Regional distribution by national origin of travel; (4) Distribution of surface carrier passenger revenues between the U. S. and foreign vessels, and distribution of revenues contributed to U. S. and foreign vessels by U. S. and foreign residents.

Crozier emphasized that the report did not attempt to make any predictions on the amount of air travel that may be expected in any area in the postwar era, but dealt rather in air traffic potentials based on the historic record of surface transportation to those areas.

#### Fourth of Series

The report is actually the fourth of a series dealing with trans-oceanic travel, and was issued at this time for use in connection with the South Atlantic route hearing, held in Washington during the past fortnight.

Crozier concluded that favorable post-war developments in Asia and Europe "might well presage large new possibilities for interchange of air traffic between those areas and the United States."

"Such possibilities seem well-favored by the short great-circle trans-Arctic air routes which are not available to surface travel. The motives for travel between the United States and Asian areas would seem to be, primarily, private and governmental business, and, secondarily, sightseeing. The cost considerations respecting such travel are unfavorable as compared with trans-Atlantic travel; the distances are relatively great, and although the populations of Asian countries are vast, per-capita incomes are extremely low.

"Possibilities for substantial air traffic development between the United States and the English-speaking nations of the south Pacific and neighboring islands seem excellent. Here distances of travel are also great, but the cultural ties are strong and per-capita wealth is high. It seems likely that other elements favoring such travel will grow out of developing mutual interests."

With respect to the trans-Caribbean area, Crozier concluded that the advantage of the airplane over surface travel lay in "the typically time consuming and costly journeys necessitated by surface transportation." In this area, he said, "distance of travel track favors air transportation by a margin of from one to two thousand miles and time of travel favors air transportation by a margin of from 12 to 15 days."

Crozier said the growth of overseas air travel will represent some loss to surface carriers, but that it was unlikely that this diversion would be felt in either the low-cost surface cruise travel or surface cargo, making the area of competition between the sea and air relatively small in terms of total steamship revenues. "Further," he said, "the principal share of the total historic market to be penetrated by future overseas air transportation has been carried by foreign ships."

With respect to the historic traffic patterns of the three main travel areas, Crozier reached these conclusions:

"While trans-Atlantic travel typically accounts for over one-half of the total number of travelers interchanged between the United States and all foreign areas, it comprises approximately two-thirds of the volume of travel in terms of passenger miles. Trans-Caribbean travel accounts for somewhat less than one-third of the total number of passengers, but only approximately 13 percent of the total volume of travel in terms of passenger miles. . . . Trans-Pacific travel accounts for only 14 percent of the total number of travelers but it contributes 20 percent of the total in terms of volume."

Crozier said the study was confined to one great air track "so defined by traffic and operational considerations as to demand special mention," its elements being established by the convenient distributions of Anglo-American land masses and Anglo-American travel habits.

"This track, described in relation to areas which supply its traffic, crosses the United States diagonally from the great coastal cities of California to transit stations on the northeastern rim of Canada, serving en route the principal traffic centers of the United States and Canada. It spans the Atlantic to the British Isles and passes southeastward across the Afro-Eurasian and South Sea regions to Aus-

(Turn to page 20)

### Regional Distribution of Total Travel by Transit Areas (Calendar year 1937)

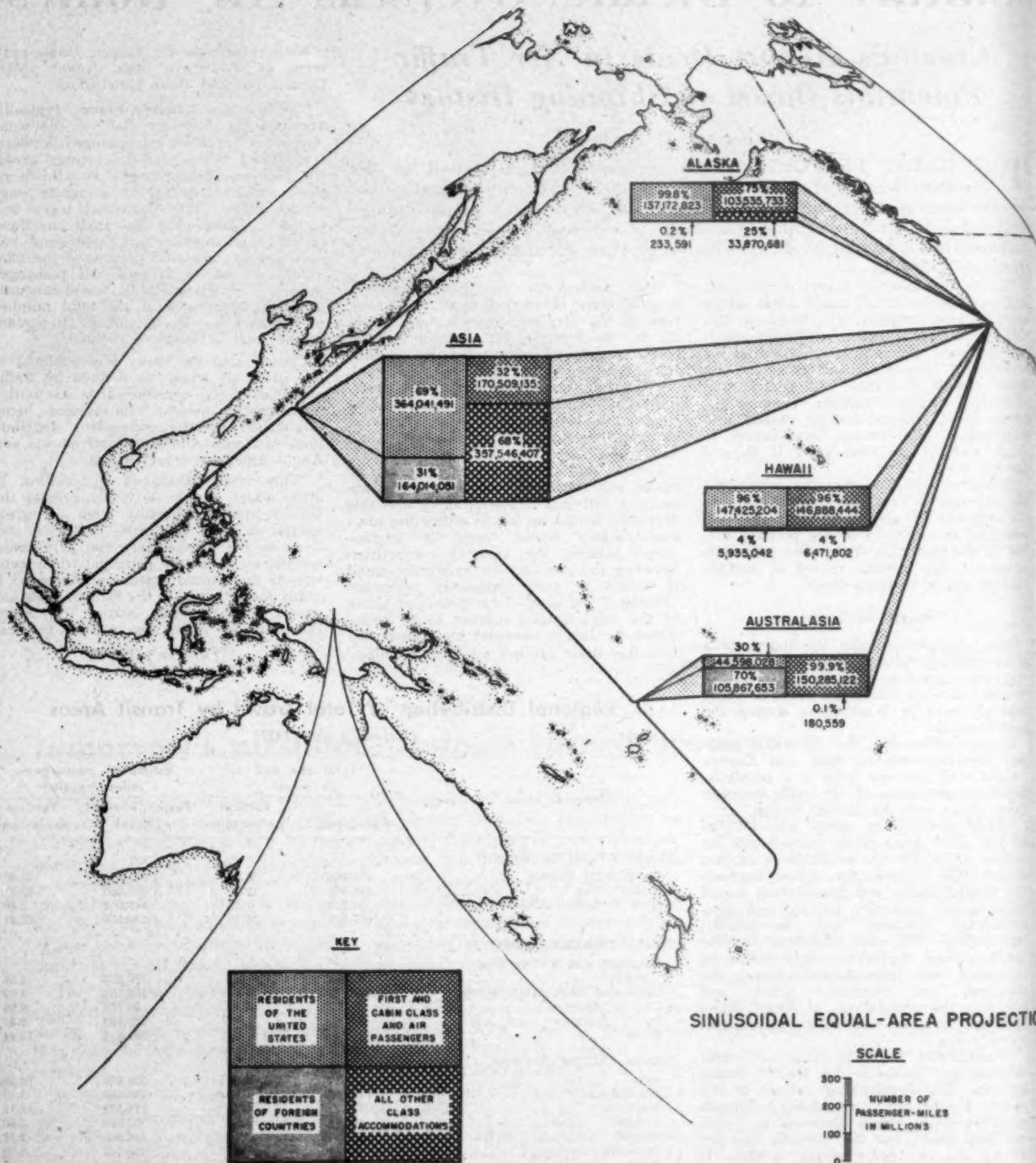
Overseas areas	Total sea and air travel		Estimated passenger-miles traveled	
	Passengers	Vertical percentage	Passenger-miles (000's)	Vertical percentage
<b>TRANS-ATLANTIC REGION</b>				
Continental Europe .....	413,908	34.45	2,061,095	42.90
British Isles .....	228,902	19.04	1,062,300	22.11
Near East and Africa .....	14,514	1.21	115,204	2.40
Total .....	657,224	54.70	3,238,599	67.41
<b>TRANS-CARIBBEAN REGION</b>				
Bermuda and British West Indies .....	151,171	12.59	170,823	3.56
Cuba and other West Indies ..	159,236	13.25	193,186	4.02
Central America .....	37,988	3.16	98,703	2.05
South America .....	31,667	2.64	135,103	2.81
Total .....	380,062	31.63	597,815	12.44
<b>TRANS-PACIFIC REGION</b>				
Asia .....	57,697	4.90	528,055	10.99
Australasia .....	16,926	1.41	150,466	3.13
Subtotal .....	74,623	6.21	678,521	14.12
Alaska .....	47,894	3.97	137,407	2.86
Hawaii .....	41,982	3.49	133,360	3.17
Subtotal .....	89,876	7.46	290,767	6.03
Total .....	164,299	13.67	969,288	20.15
<b>GRAND TOTAL</b> .....	<b>1,202,585</b>	<b>100.00</b>	<b>4,905,702</b>	<b>100.00</b>

# COMPOSITION OF TOTAL PASSENGER

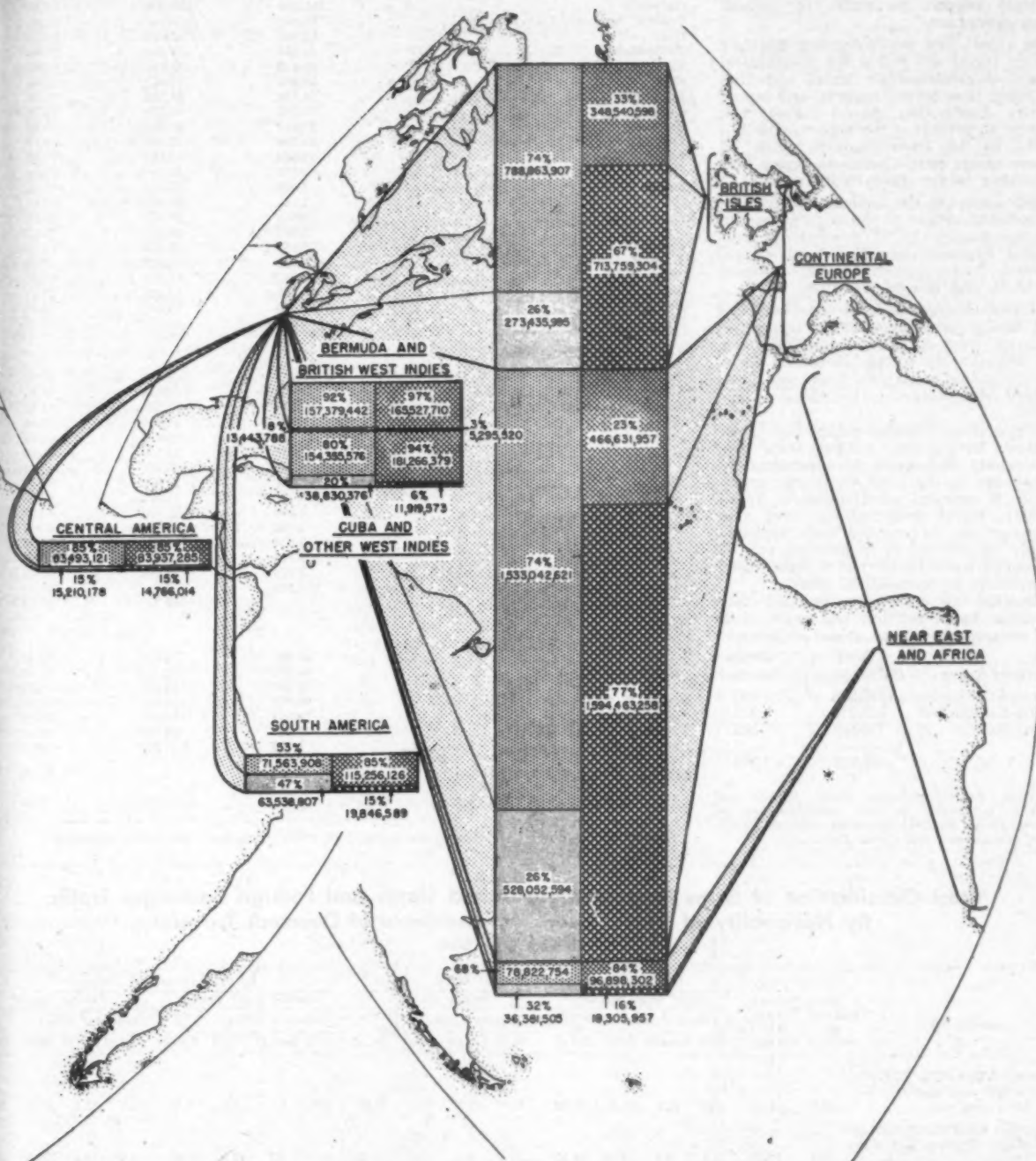
BETWEEN THE UNITED STATES AND

BY TYPE OF ACCOMMODATION AND REASON FOR TRAVEL

CALENDAR YEAR 1945



# L PASSENGER-MILES EXCHANGED D SES AND OVERSEAS AREAS OATION AND RESIDENCE OF TRAVELER END YEAR 1937





tralia and New Zealand. Thence it extends northeast to the California coast traversing en route the islands of the Pacific and Hawaii.

"The United States is the dominant traffic center on the trade track extending some 12,000 miles eastward from Australia to London. This fact and the national composition of travel passing over this track indicate that future air services over this segment will find their principal support in traffic of United States generation."

The report said that assuming that future air travel will follow the distribution pattern of combined air travel and first and cabin class travel, regional and inter-country distribution should follow this pattern: 45 percent of the total volume involved to the trans-Atlantic region 27 percent to the trans-Caribbean region and 28 percent to the trans-Pacific region.

With respect to the regional distribution by national origin of travel, the report said that historically, U. S. residents constituted approximately 80 percent of all overseas "nonmigratory" travel between the U. S. and foreign countries.

"United States residents also contributed similar percentages to the respective totals of trans-Atlantic, trans-Caribbean and trans-Pacific travel. However, there are substantial variations from this proportion with respect to individual countries."

In the trans-Atlantic group, the U. S. resident contribution ranged from approximately 75 percent to approximately 90 percent; in the trans-Caribbean group the U. S. resident contribution to inter-country travel combinations over one passenger per day ranged from approximately 30 percent to 93 percent, and 60 percent of trans-Pacific travel represented interchange between U. S. areas.

Potential air travel by regional distribution, based on first and cabin class and air passengers, was shown as follows:

Overseas Areas	Total Passengers	Daily Average
Trans-Atlantic ..	180,989	496
Trans-Caribbean*	355,218	973
Trans-Pacific ...	111,684	306
Total .....	647,891	1,775

\* Total trans-Caribbean travel figures are heavily influenced by the predominance of United States resident travel to offshore Caribbean islands and the Canal Zone.

## Regional Distribution by National Origin of Travel

(Calendar year 1937)

Overseas areas	U. S. residents and alien visitors	Estimates of passenger-miles (000's)	U. S. resident passengers as a percent of total
<b>TRANS-ATLANTIC REGION</b>			
United Kingdom .....	202,058	945,631	75.10
Germany .....	101,300	530,506	73.34
France, Monaco, Luxembourg .....	66,963	319,547	85.54
Italy .....	35,884	185,018	88.56
Switzerland .....	26,845	135,084	91.00
Netherlands .....	26,423	128,812	87.05
Eire .....	19,969	85,673	90.87
Belgium .....	18,734	91,600	91.05
Norway .....	15,142	60,734	75.29
Sweden .....	13,619	58,085	82.94
Denmark .....	13,000	55,061	84.15
Africa .....	10,004	83,802	71.92
Czechoslovakia .....	9,294	43,180	86.64
Hungary .....	8,416	47,104	90.15
Austria .....	7,781	42,562	79.10
Poland and Danzig .....	6,039	33,571	80.81
Near East .....	3,621	24,914	75.53
Greece .....	3,595	22,681	84.23
U.S.S.R. ....	3,381	15,908	68.00
Finland .....	3,249	14,653	83.04
Yugoslavia .....	3,068	17,849	87.05
Spain .....	2,934	13,543	52.42
Not shown separately .....	8,855	44,142	83.83
<b>TRANS-CARIBBEAN REGION</b>			
Bermuda and British West Indies ....	150,138	169,636	92.76
Cuba .....	143,043	164,643	81.45
Canal Zone and Panama .....	25,158	64,128	93.85
Dominican Republic .....	6,673	10,630	61.11
Argentina .....	5,419	33,963	62.28
Brazil .....	5,436	30,550	73.40
Venezuela .....	5,331	12,917	43.13
Guatemala .....	5,322	14,359	88.09
Netherlands West Indies .....	5,222	11,574	89.93
Colombia .....	4,906	10,272	49.08
Peru .....	3,346	13,802	47.97
Chile .....	3,032	17,234	54.75
Honduras .....	2,714	7,322	68.79
Not shown separately .....	9,276	25,446	57.73
Total passengers .....	375,018	.....	84.10
Total passenger-miles .....	.....	586,316	80.18
<b>TRANS-PACIFIC REGION</b>			
Alaska .....	47,694	137,406	99.83
Hawaii .....	41,962	153,360	96.13
Japan .....	23,400	188,906	76.68
China .....	20,151	199,475	68.69
Australia and New Zealand .....	15,658	140,986	30.35
Philippine Islands .....	7,007	64,030	83.63
Not shown separately .....	4,793	50,958	50.05
GRAND TOTAL PASSENGERS .....	1,145,917	.....	81.67
GAND TOTAL PASSENGER-MILES ..	.....	4,521,130	78.59

NOTE: Individual areas exchanging more than 2,500 passengers are listed separately.

## Cross-Classification of Gross Revenue from United States and Foreign Passenger Traffic By Nationality of Vessel Used and Residence of Overseas Traveler

(Calendar year 1938)

Overseas areas	By Nationality of Vessel Used										By Residence of Traveler																									
	Gross revenue Millions Vertical of dollars per- centage		United States residents				Foreign residents				United States vessels				Foreign vessels				Percent of Col. 2																	
			Millions of dollars		Percent of Col. 2		Millions of dollars		Percent of Col. 2		Millions of dollars		Percent of Col. 2		Millions of dollars		Percent of Col. 2																			
			U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total																			
			U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total	U. S.	Foreign	Total																			
TRANS-ATLANTIC REGION (Europe and Medi- terranean .....																			85.6	66.00	6.7	55.1	61.8	72.20	1.4	22.4	23.8	27.90	6.7	1.4	8.1	9.46	55.1	22.4	77.5	90.8
TRANS-CARIBBEAN REGION Central America and West Indies .....																			22.3	17.19	10.3	8.4	18.6	83.41	2.7	1.0	3.7	16.59	10.3	2.7	12.9	57.85	8.4	1.0	9.4	42.15
South America .....																			6.5	5.01	2.4	0.9	3.3	50.77	2.1	1.1	3.2	49.23	2.4	2.1	4.5	69.23	0.9	1.1	2.0	30.77
Total .....																			28.8	22.20	12.6	9.3	21.9	76.04	4.8	2.1	6.9	23.96	12.6	4.8	17.4	60.42	9.3	2.1	11.4	39.58
TRANS-PACIFIC REGION AND AFRICA .....																			15.3	11.90	3.3	4.4	7.7	50.33	3.3	4.3	7.6	49.67	3.3	3.3	6.6	43.14	4.4	4.3	8.7	56.85
GRAND TOTAL .....																			129.7	100.00	22.6	68.8	91.4	70.47	8.5	28.8	38.3	29.53	22.6	9.5	32.1	24.75	68.8	28.8	97.6	73.15

# Pogue Says Airlines Will Aid Merchant Marine Volume

## Ocean Shipping Due To Grow Along With Global Plane Routes

AIR TRANSPORTATION will not destroy ocean shipping "or our Merchant Marine," L. Welch Pogue, chairman of the Civil Aeronautics Board, declared last week in an address at the first International Civil Aviation Luncheon sponsored by the Aviation Section, New York Board of Trade, in New York.

Pogue said that the "diversion of passenger traffic, and the limited diversion of cargo traffic, to the air most decidedly does not mean a destruction of the United States Merchant Marine. Ships will still carry the bulk of the exports and imports of the United States."

Pogue declared frankly that "these limited adverse effects upon ocean shipping will never be noticed for the reason that the increased business activity which will be stimulated by air transportation will produce other new traffic in such abundance that the losses will be more than compensated for."

"Ocean shipping and air transportation are both destined to remain and both destined to grow," he said.

Pogue drew upon the recent report of P. H. Crozier, chief of the CAB's Research and Analysis Division, to drive home the point that whatever diversion to the air is captured by American flag air lines "will be captured primarily from operators of foreign ships."

"In 1938, only about 25 percent of the gross revenue for transporting passengers between the United States and overseas destinations was received by vessels of

United States registry; foreign vessels received approximately 75 percent of such revenue," he said.

"This was despite the fact that United States residents were contributing about 70 percent of the gross passenger revenue in overseas travel between this and other countries."

"A diversion then of even all first and cabin-class passenger traffic to the air would have its principal effect upon foreign surface carriers rather than upon our own Merchant Marine."

"If, as first and cabin-class traffic is diverted to the air, United States air carriers step in and capture only one-half of the diverted traffic, there will be a net gain to United States interests."

"The initiative and resourcefulness of our air carriers should enable us to establish a merchant air fleet in keeping with the importance of the contribution which we make to world passenger travel."

Pogue declared that another important consideration in the penetration of sea by air travel "is the probability that the revenues of ships serving United States overseas traffic which is normally attributable to first and cabin-class travel, are approximately eight percent of the aggregate operating revenues of those carriers."

"The area of competition between air and sea in terms of total steamship revenues promises, therefore, to be relatively small in the immediate future."

Pogue called on his listeners to "mark well the point that in the long run the largest portion of international air transport business will be new business which has never before existed."

He pointed to the development of the railroad, the auto and better and faster

## Aviation Calendar

Feb. 1-2—ACCA, Central Regional Traffic Committee, Andrew Jackson Hotel, Nashville.

Feb. 2—ACCA, Nat'l Public Relations Advisory Committee, Los Angeles.

Feb. 2-3—ARC, ATA, Air Carrier Performance subcommittee meeting, Hotel Lexington, New York.

Feb. 2-6—ARC, CAA, CAB, Air Carrier Performance meeting, Statler Hotel, Washington.

Feb. 11—Nat'l Aviation Trades Assn., board meeting, Washington.

Feb. 12—Civil Aviation Joint Legislative Committee meeting, Washington.

Feb. 12-13—ACCA, Joint Industrial Relations Committee, Stevens Hotel, Chicago.

Feb. 14-16—ACCA, American Manufacturers Assn. semi-annual conference (Personnel), Palmer House, Chicago.

Apr. 4-6—Society of Automotive Engineers, national aeronautics meeting, Hotel New Yorker, New York.

Apr. 10-11—Aero. Chamber, National Airworthiness Requirements committee meeting, New Orleans.

Apr. 10-11—Aero. Chamber, Airplane Technical Committee meeting, New Orleans.

Apr. 16—World Air Transport Operators meeting, Havana.

May 6-9—International Aviation Fraternity, first annual convention, Miami Beach.

May 20-27—Pan American Aircraft Exposition, Dallas.

ships as factors in building per capita passenger miles.

"We do not know the limit of our capacity to travel and trade as the transportation medium improves and the rates go down," he said.

"Thus a tremendous growth of entirely new business in international air trade and travel is sure to develop when the enlarged opportunity to the service comes. And as fast travel becomes available to the businessman, his markets and his business expand."

"Bulk shipments following his business trips, will, in all probability . . . go by

## Regional Distribution of Potential Air Travel

(Calendar year 1937)

Overseas areas	Number of first and cabin class and air passengers			Number of passenger-miles by first and cabin class and air passengers		
	Total	Daily average	Vertical percentage	Total	Daily average	Vertical percentage
<b>TRANS-ATLANTIC REGION</b>						
Continental Europe .....	93,711	257	14.47	466,631,957	1,278,443	22.99
British Isles .....	75,070	206	11.59	348,540,596	954,906	17.18
Near East and Africa .....	12,208	33	1.88	96,896,302	265,475	4.78
Total .....	180,989	496	27.94	912,070,857	2,498,824	44.95
<b>TRANS-CARIBBEAN REGION</b>						
Bermuda and British West Indies .....	146,492	401	22.61	165,527,710	453,501	8.16
Cuba and other West Indies .....	149,406	400	23.06	181,286,379	496,620	8.93
Central America .....	32,304	89	4.99	83,937,285	229,965	4.14
South America .....	27,016	74	4.16	115,256,126	315,770	5.68
Total .....	355,218	973	54.82	545,967,500	1,495,856	26.91
<b>TRANS-PACIFIC REGION</b>						
Asia .....	18,629	51	2.88	170,500,135	467,148	8.40
Australasia .....	16,906	46	2.61	150,285,122	411,740	7.40
Subtotal .....	35,535	97	5.49	320,785,257	878,888	15.80
Alaska .....	35,937	99	5.55	103,535,733	283,660	5.10
Hawaii .....	40,212	110	6.20	146,888,444	402,434	7.34
Subtotal .....	76,149	209	11.75	250,424,177	686,094	12.34
Total .....	111,684	306	17.24	571,218,434	1,564,982	28.14
<b>GRAND TOTAL</b> .....	<b>647,891</b>	<b>1,775</b>	<b>100.00</b>	<b>2,029,276,791</b>	<b>5,539,862</b>	<b>100.00</b>

ship and not by plane, thus enlarging, not diminishing, the business of our Merchant Marine."

Pogue said every new form of transportation, as well as creating traffic, has diverted some traffic from older forms of transportation.

"To the extent that air transportation diverts traffic from surface vessels, it will initially consist of passenger traffic . . . but it will be a minor fraction of international passenger air travel. New air passenger business will constitute the major fraction."

Pogue said that some limited diversion of ocean cargo to the air could also be expected, but that it would constitute "a very small fraction of the sea total," pointing out that "it will be a long time, if ever, before air cargo rates will be able even to approach most of the ocean rates."

Ocean transport, he said, so long as it remains the cheapest means of freight movement in the world, must be counted upon to continue to transport bulk cargo. "Air transportation will be obliged to be content with a small amount of diverted cargo where time, competitive considerations, or unusual circumstances control the medium of shipment."

Reviewing the status of the Merchant Marine in 1938, Pogue declared that it consisted of 27,155 vessels having a gross tonnage of 14,651,000. Of this total, he said, "only 1,575 vessels, having a gross tonnage of 3,550,815, were registered as engaged in foreign trade."

#### 60 Per Cent in Freight

"Sixty percent of the vessels engaged in the foreign trade, representing 54 percent of the gross tonnage, were in freight services; five percent of the vessels, representing 14 percent of the tonnage were tankers; and 22 percent of the vessels, representing three percent of the tonnage, performed services classified as dredging, ferry, fishing, oystering, pile driving, towing, wrecking, pilot boat, patrol boat, refrigerator, whaling and miscellaneous."

"Thus a total of 87 percent of the number of vessels, representing 71 percent of the gross tonnage engaged in foreign trade are in services which stand to benefit from an increase in exports and imports brought about by increased world trade, which . . . I am certain will be stimulated by the quickened movement by air of business mail and the swift transportation of businessmen throughout the world."

Pogue said that international routes proposed by the CAB when added to the existing U. S. air routes provided access to every continent and important region in the world. Generally speaking, he said, they are based on commercial considerations.

"They represent the Board's judgment as to the best routes for airborne trade and travel prospects from and to the United States," pointing out that the CAB was expediting hearings on these routes to permit "the prompt inauguration of additional air services abroad when time and conditions are appropriate."

"We are approaching, therefore, a period of great importance to this country in that the decision period is now almost upon us with respect to the applications of American flag carriers."

"These applications will require the determination of many important issues

## Newfoundland Commission Votes To Sign 'Two Freedoms' Pact

### An Important Stepping Stone to Europe Opened Up to World's Planes

NEWFOUNDLAND has decided to sign the "two freedoms" agreement, allowing foreign airlines to fly over her territory without landing, and to land for technical purposes, the Commission of Government of Newfoundland announced Jan. 16. The "two freedoms" agreement was one of the documents drawn up at the International Aviation Conference at Chicago.

Thus, one of the important stepping stones on the route to Europe is opened up to the planes of the United States and other countries.

When Lord Swinton, head of the British delegation, signed the "two freedoms" agreement for Great Britain, he stated specifically that his signature did not include Newfoundland. He made this reservation after being informed by Newfoundland representatives that they wished more time to examine the situation.

"The Commission of Government have now had the opportunity of examining fully the position of Newfoundland and of hearing an account of the discussions at Chicago from their representatives," said the government's statement. "They have come to the conclusion that, having regard to the situation of Newfoundland in relation to international air routes and its possession of large land and sea airports, the maintenance of which will involve very large annual outlays, the interests of Newfoundland will be best served in the future by the widest possible use of such of its airports as Newfoundland may designate as airports for international air service."

Revenues received from landing fees and facilities "will far outweigh any temporary immediate benefit which might conceivably accrue from bargaining with other countries for civil aviation rights."

such as the question of whether there should be more than one American flag carrier in the international field; if so, whether there should be competition between flag carriers; whether, if there is to be more than one, there should be any prohibition against a domestic carrier proposing to operate beyond the borders of the United States; and many related questions of an economic and political nature."

Pogue devoted considerable time to the accomplishments of the recent Civil Aviation Conference in Chicago, characterizing it as achieving "some of the greatest and most progressive steps ever taken in the field of aviation."

He said the Chicago conference had not only accomplished what had been attempted at the Paris Convention of 1919 and the Havana Convention of 1928, but had gone much farther in the formulation of an international air policy.

The new international air navigation convention drawn up in Chicago he described as representing "one of the most

Newfoundland has the right to designate which of her airports shall be used in international service. The Commission pointed out that "global use of certain airports in Newfoundland is in abeyance and statements to this effect already issued are not affected by the decision now announced." This statement evidently referred to the vast Goose Bay base, on which Canada has secured certain postwar military rights, but on which commercial rights have not yet been settled.

### Colvin Named President Of Institute; Grumman, Burden Among Four VPs

Charles H. Colvin of New York has been elected president of the Institute of the Aeronautical Sciences for 1945. He succeeds Maj. R. H. Fleet of San Diego.

Elected as vice presidents were: W. A. M. Burden, assistant secretary of commerce; LeRoy R. Grumman, president of Grumman Aircraft Engineering Corp.; I. M. Laddon, executive vice president of Consolidated Vultee Aircraft Corp.; and Arthur E. Raymond, vice president in charge of engineering of Douglas Aircraft Co. Earl D. Osborn, president of Edo Aircraft Corp., was elected treasurer.



Colvin

Colvin has recently completed a 22,000 mile trip to the South and Southwest Pacific, where he made a study of aircraft instrument maintenance, repair and overhaul facilities for the Bureau of Aeronautics of the U. S. Navy. He is at present an engineering and management consultant.

outstanding contributions in the field of civil aviation ever achieved by an aviation conference and reflects the experience gained under the Paris and Havana Conventions."

Pogue said it was too early to prophesy as to the extent the Chicago conference agreements would be accepted by the nations of the world. "It is not too early, however, to express the very earnest hope and confident expectation that the Interim Agreement will come into force at a very early date. It will do that when 26 nations have confirmed their signatures to the United States."

Pogue paid tribute to the services of the Air Transport Command and Naval Air Transport Service, declaring that these two services, "plus the limited amount of commercial transoceanic international services, which would be continued during the war, have, in one of history's twinklings, transferred the prospect of transoceanic passenger travel very substantially from the surface to the air."



# Steps Taken to Solve Radio Problems

## Aeronautical Radio, Inc., Consolidates Operations; FCC Frequencies in Accord

TWO MAJOR STEPS toward solving present and future airline communications problems have just been taken by Aeronautical Radio, Inc., the non-profit radio organization of the U. S. airlines, and by the Federal Communications Commission.

Arinc, taking direct action to meet the problem of insufficient frequencies to handle communications on new routes and route extensions which have been and are expected to be granted by the Civil Aeronautics Board, has decided to try out consolidated operation of communications facilities, and will operate the facilities and supply service to all airlines on an equal basis. Toledo has been chosen for the first test of the consolidated set-up, and a committee was appointed to select a second city for a similar test.

The FCC issued its report of proposed allocations above 25,000 kilocycles, and assigned for aviation use substantially those frequencies which had been requested by Arinc through the Radio Technical Planning Board at last October's hearings.

The decision to try out consolidated Arinc operation of facilities was made at the annual stockholders meeting following blunt warnings from airline and government representatives that unless immediate and radical action were taken, some airlines would come face to face with the fact that they could not operate some of the routes recently granted by the CAB because of lack of communications. T. E. Daniels of FCC told the meeting that the number of frequencies available for the airlines was to all intents and purposes frozen due to the sandwiching in of the military on frequencies which were not being used, and that the FCC could not find frequencies to give individual companies as in the past.

### Sharing Temporary Solution

Referring to three possible solutions mentioned earlier in a report on the activities of the Arinc Frequencies Committee by F. C. Barker, Northeast Airlines, he said these could only be sharing, consolidation, and combination with Arinc operating. He said that sharing would offer a temporary solution in some cases, and in this respect asked all operators to supply as soon as possible the information recently requested by Arinc as to where they were using the frequencies assigned to them, but warned that in many places where a frequency was not being used in a given area, it had already been taken over by the military under the sandwiching policy.

On the other hand, combination or consolidation of facilities offered far more hope. Daniels revealed that recent surveys by FCC monitors had shown that many frequencies were carrying only a small per cent of the traffic load of which they were capable. He said that due to the necessity of being able to handle

peaks, a 40 per cent load was considered as 100 per cent, but that many of the frequencies monitored were carrying only an 8, 9, 10, 12, 13 or 17 per cent load.

It was the general consensus of the operators present that if consolidation or combination were the only solutions available, it would be much more practical to have Arinc operate the facilities and supply service on an equal basis to all airlines than to have one airline lease service from another. It was pointed out that the consolidated set-up would also give the airlines the benefit of sharing equipment and operating personnel costs instead of duplicating these expenses.

### Summer, Winter Trials

A majority of the airline representatives present pledged their companies to go along with whatever cities the directors should select for the test, and to contribute whatever of their stations required for the trial. It was further agreed that the trial period should be of sufficient length to cover both summer and winter operations. Work on consolidation of the Toledo facilities is already under way, and the consolidated set-up is expected to be in effect within 90 days. The second trial zone is now being selected by a committee composed of G. A. O'Reilly, Transcontinental & Western Air, chairman; G. E. Mears, American Airlines; and R. O. Smith, Pennsylvania-Central Airlines.

Turning to the matter of very high frequencies it was decided that all airlines will put in instrument landing receiver systems, VHF range receivers, and VHF two way communications in accordance with the facilities now being installed and planned by the Civil Aeronautics Administration. Daniels warned, however, that VHF should not be taken as an immediate solution to the crowded frequency problem as there are only four frequencies now available, and it is doubtful how many more can be made available until V-E day. The complete bands proposed by the FCC will probably not be available until after V-J day.

The only major deviation between the FCC proposed allocations of bands above 25,000 kilocycles and the bands requested by Arinc through RTPB was that no allocations were made of experimental frequencies for aviation in the 5,000-30,000 megacycle band. The requested assignment of 165-185 mc was cut to 170-180 mc because it was felt that employment of improved techniques and equipment would permit saving of 5 mc of spectrum at each end of this band. The requested assignment 956-1125 mc was cut down to 960-1125 mc to allow for the needs of other services. All other changes were in the nature of additions to the RTPB requests.

The 225-400 mc band was assigned primarily for government aviation communication, but with 75 channels reserved for non-government aviation. Because of recognition of the existence of certain air

### Rentzel Re-elected

D. W. Rentzel has been re-elected, president of Aeronautical Radio, Inc., for 1945. G. A. O'Reilly, Transcontinental & Western Air, has been named vice president and secretary, and R. O. Smith, Pennsylvania-Central Airlines, vice president and treasurer. The following directors have been named: Rentzel, O'Reilly, Smith, Peter Wolf, Western Air Lines; Carl Swanson, Northwest Airlines; Paul Wadlington, Chicago & Southern Air Lines; Frank Dyer, Braniff Airways; G. E. Mears, American Airlines; J. R. Cunningham, United Air Lines; Larry Campbell, Delta Airlines; D. C. McRae, Eastern Air Lines.

navigation aids now operating in these bands, 420-450 mc, 450-460 mc, and 508-524 mc were assigned with provision for future reassignment to non-aviation uses. The requested assignment 1450-1500 mc was increased to 1450-1550 mc to provide 50 mc for use by meteorological services, and the requested assignment 1500-1600 mc for experimental aeronautical mobile was changed to 1550-1650 mc.

The FCC report emphasized the need for allocating frequencies in bands instead of by isolated channels, pointing out that in order to derive the maximum efficiency from an allocation system, complete control of the adjacent as well as the assigned channels must be exercised. Where two government agencies, such as FCC and IRAC will both authorize channels for the same type of service, it was further stated, the allocation of bands should include all channels needed by both agencies. Conflicts with the military allocations should likewise be avoided.

### Number May Be Increased

The report added that in fixing channel width for all cases where specified, such action was taken upon the representation of D. W. Rentzel, president of Arinc, that, as improvements in the art are achieved, the aviation industry will avail itself of the use of such channels widths as may be feasible, thus providing room for increasing the number of available channels.

Arinc has increased its budget for 1945 to \$116,700 for administrative and overhead engineering purposes, as against an expenditure of \$85,137 for the same purposes in 1944. The increase is primarily to provide for increased personnel including engineers, and for expanded offices to accommodate increased activities.

### Martin Named Regent

Governor O'Connor of Maryland has announced that Glenn L. Martin, president of the Glenn L. Martin Co., will be appointed as a member of the board of regents of the University of Maryland, subject to confirmation by the State Senate. The Martin company recently made a grant of \$1,700,000 to establish a college of aeronautical research at the University.

# PAA-Amex Recommended For Transatlantic Routes

## AMEX Named 'Only In Event of Acquisition By American Airlines'

PAN AMERICAN Airways and American Export Airlines were recommended for certification to fly the four transatlantic routes proposed by the Civil Aeronautics Board in a report on the North Atlantic case (Docket 855 et al.) issued last fortnight by Examiners Thomas L. Wrenn and F. D. Moran.

The report recommended that American Export should be certificated only in the event the acquisition of that company by American Airlines is approved by the CAB.

Thus the recommendations presented a solution to the CAB's dilemma in connection with acquisition. Pan American and United Air Lines in oral argument before the CAB last fortnight urged that both the North Atlantic and acquisition cases be consolidated for purposes of decision.

They contended that the Board could not justify approval of the purchase price of \$3,000,000 based on AMEX's temporary certificate. Now that the examiners have recommended AMEX for a permanent certificate, the CAB by consolidation, will be able to look at the entire picture before reaching its decisions.

The report, which is not to be construed as an opinion of the CAB, represented some speedy action, and forecast more to come, for C. Edward Leasure,

CAB chief examiner, announced that oral argument on the North Atlantic case would be held Feb. 28. It is no secret that the Board is pressing for action in this all-important international case, and some observers have forecast a decision by March 1.

In addition to recommending the two carriers, the report held that all four of the routes proposed by the CAB as transatlantic trade arteries were required in the public interest, but suggested some modifications.

These were that Route II be amended to include London; that Route I or II should include a segment from Athens to Sevastopol via Istanbul and Bucharest; that Route III terminate at Moscow; that the segment from Lisbon or Madrid to Cairo should be eliminated from Route IV.

As originally proposed by the CAB, the four routes went as follows:

I. New York, a point in Newfoundland or Labrador, a point in Eire, London, Amsterdam, Berlin, Prague, Vienna, Budapest, Bucharest, Istanbul, Cairo.

II. New York, points in Newfoundland or Labrador, a point in Eire, Paris, a point in Switzerland, Rome, Athens, Cairo, Basra, Karachi, Calcutta.

III. New York, points in Newfoundland and Labrador, Greenland and Iceland, Oslo, Stockholm, Helsinki, Leningrad, Moscow, Teheran, Basra.

IV. New York, Bermuda, Azores, Lisbon—(a) Lisbon, Madrid, Marseilles, Rome; (b) Lisbon, Algiers, Tunis, Tripoli, Cairo; (c) Lisbon-London.

## Equal to the Occasion

A Continental Air Lines plane recently encountered a flock of ducks shortly after taking off from Stapleton Air Field, Denver—and one duck disappeared in a cloud of feathers. So Capt. Jack Weiler brought the plane back to the field to check over the external radio antennas.

Shortly after landing, he was approached by a passenger who held the commission of a special game warden in the state of Oklahoma. The warden asked to see Jack's hunting license.

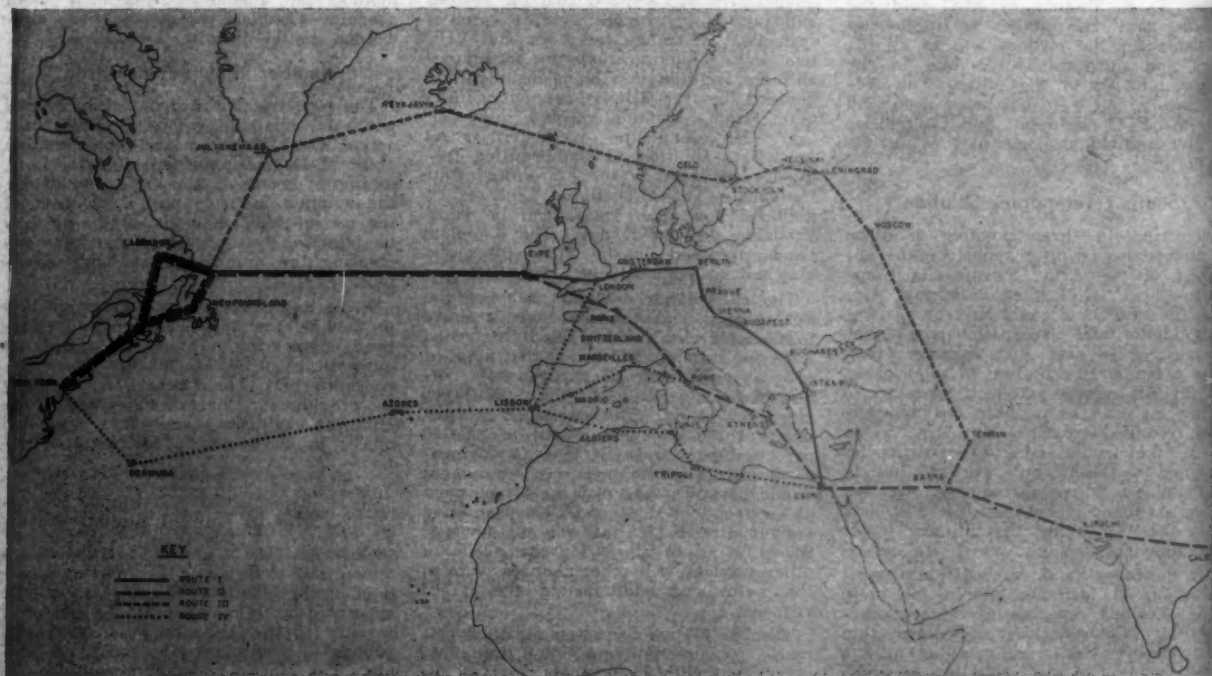
Jack, who ordinarily hunts ducks with a 12 gauge shotgun, was equal to the occasion. After some searching in his wallet, he pulled out a federal duck stamp.

The report recommended that Pan American should operate Routes II and IV, and that AMEX should fly Routes I and III.

In order that Pan American might operate Route IV, the report recommended that its present certificate between New York and Lisbon and Marseilles should be amended to include Madrid as an intermediate point between Lisbon and Marseilles, and extended from Marseilles to Rome.

It was also recommended that New York and Washington be designated as U. S. co-terminals on this route, but that Pan American be restricted from carrying domestic traffic between the two points.

The examiners also recommended that Pan American's present certificate be



Civil Aeronautics Board pattern of international air routes for North Atlantic proceeding.



## To G. I. Joe They Too Are Veterans

They are veterans of work and of prayerful waiting at the altars of their faith.

G.I. Joe will be glad to see the Statue of Liberty and the scenes of his native state.

But above all, home to him means his own people—his parents; his wife and children, or his sweetheart. All that affects him affects his family, inseparately.

Fighting around the world, the members of our armed forces have

done more for us than we at home could do for them.

They will return, not to collect their dues, but to continue their duty, ambitious to help build an even better United States.

Their training, their experience and their contact with other nationalities have widened their perspective. They have found a different world in the making.

They have learned how universal air

brings people vastly closer together.

Ours is the opportunity to make sure that our returning veterans may make their most effective contributions to our nation's growth and security. Together we must utilize the war-spurred development of global air transportation.

Yes, the veterans want to return to *you*, but not to *yesterday*. Their eyes are upon tomorrow—which will be as wonderful as we make it!

### AMERICAN AIRLINES Inc.

THE NATIONAL AND INTERNATIONAL ROUTE OF THE FLAGSHIPS



tween New York and London, via Shediac, Botwood and Foynes should be amended to include service to Washington and Baltimore as co-terminals on one segment in addition to New York; Chicago and Detroit as co-terminals on another segment with the condition that Pan Am's present certificate should be amended by extending it from London to Calcutta via Paris, Zurich, Rome, Athens, Cairo, Basra and Karachi. This would make the operation conform to Route II.

With respect to American Export, the examiners recommended that it be certificated between the co-terminals New York and Boston and the terminal point Cairo via a point in Newfoundland or Labrador, a point in Eire, and London, Amsterdam, Berlin, Prague, Vienna, Bucharest and Istanbul, thus corresponding to Route I. It was also recommended that AMEX operate the Athens-Istanbul-Bucharest-Sevastopol segment.

With reference to Route III, the report recommended that AMEX be authorized to operate between the co-terminals New York and Boston and the terminal point Moscow, via a point in Newfoundland or Labrador, Greenland, Iceland, Oslo, Stockholm, Helsinki, and Leningrad . . . "with the further recommendation that such authorization be granted only if the acquisition of control of American Export Airlines, Inc., by American Airlines, Inc., be approved."

The report was predicated upon the necessity for two strong U. S. flag carriers, and in this respect it held that American Airlines was the strongest of the three carriers seeking to compete with Pan American. The others were Transcontinental & Western Air and American Export.

"It is evident from the record that American's capital and income position is stronger than either that of TWA or AMEX, and that American's operations are more extensive than those of TWA or AMEX. It appears therefore that in these respects American is the strongest of the three carriers and best meets the qualifications heretofore set forth as being required by the second United States flag carrier."

The report made a direct answer to Pan American's position favoring a monopoly by quoting from an earlier

## Traffic Allocations

Traffic allocated to each route by countries on basis of 116,000 passengers carried by United States flag carriers:

Route I	
Ireland	1,777
United Kingdom	25,281
Belgium	1,664
Holland	2,429
Germany (Berlin)	5,125
Poland	946
Czechoslovakia	853
Austria (Vienna)	659
Hungary, (Budapest)	753
Rumania (Bucharest)	257
Yugoslavia (Belgrade)	375
Turkey (Istanbul)	134
Bulgaria (Sofia)	61
Egypt (Cairo)	194
Total	40,508

Route II	
Ireland	1,777
France (Paris and Luxembourg)	3,918
Switzerland (Geneva)	2,359
Italy and Albania (Rome)	1,992
Germany (Munich)	1,538
Greece (Athens)	548
Egypt (Cairo)	194
Total	12,326

Route III	
Denmark (Copenhagen)	1,109
Norway (Oslo)	1,248
Finland (Helsinki)	352
Estonia (Helsinki)	52
Sweden (Stockholm)	1,689
Latvia (Riga)	72
Lithuania (Kaunas)	130
U.S.S.R. (Leningrad)	378
Total	5,030

Route IV	
Azores	90
Portugal (Lisbon)	328
Spain (Barcelona)	194
France (Marseilles)	1,949
Italy and Albania (Rome)	1,992
Malta	90
Total	4,643

CAB opinion which said: "We are unable to find that the continued maintenance of an exclusive monopoly of trans-Atlantic American flag air transportation is

in the public interest since there is no public control over the passenger or express rates to be charged or over the standards of service to be rendered as is customarily provided in the case of a publicly protected monopoly."

"It is therefore obvious," the report continues, "that while the Board awarded AMEX only a temporary certificate (in the earlier case), it interpreted the Act to require American flag competition over the North Atlantic trade route."

With respect to TWA's proposals for a round-the-world service, the report held that the national interest considerations "require one United States flag operation around-the-world and in that respect Pan American's pioneering operations in the international field, together with the fact that its operations are now world-wide in character, deserve the recognition which would be extended by permitting that company to complete its around-the-world route."

"Extension of Pan American's service should serve to offset traffic diversion resulting from competition by another United States flag carrier," the report said.

"After weighing all of the foregoing considerations it is concluded that the certification of AMEX and approval of the acquisition of control by American would best serve the public interest. This conclusion as to conducting international operations through separate organizations is not predicated upon the fact that such a relationship between AMEX and American has been proposed and is now pending before the Board.

"The same procedure would have been recommended had it been concluded that TWA would best serve the public interest. It is recommended that in the event the Board should find that another carrier other than AMEX should be certificated or that additional carriers should be certificated in transatlantic operations that such operations be conducted through a separate corporate subsidiary."

The report recommended that the applications of Northeast, Pennsylvania-Central, TWA, U. S. Midnight Sun Airlines, Moore McCormack Lines, National Airlines, Trans-Oceanic Airlines and U. N. Airships be denied.

## ATA Directors Oppose Withholding Names Of Plane Accident Victims

Directors of the Air Transport Association in a regular meeting at the Carlton Hotel in Washington last fortnight turned down flatly a recommendation by the ATA Personnel Committee that names of persons injured or killed in air transport accidents be withheld until the next of kin had been notified.

ATA sources said that the directors took the position that the withholding of names was not only contrary to airline policies, but would set the industry back many years in its relations with the public. Airline publicity men had unanimously opposed the recommendation.

The directors took no action on a request that the ATA participate in action brought in Superior Court, Los Angeles,

against Lockheed Air Terminal and several airlines for maintenance of a nuisance in connection with airline operations at that point.

Other items on the agenda were described as routine. They included a report by Hamilton O. Hale, chairman of the ATA legislative committee; a discussion on ATA participation in proceeding before the Interstate Commerce Commission concerning liability limitation for aircraft engines, and a discussion of the CAB investigation on non-scheduled air transportation.

## Switlik's 250,000th

Employees of the Switlik Parachute Co., Trenton, N. J., autographed the company's 250,000th parachute recently at a dinner given to celebrate its manufacture. The chute will be placed in the company's museum.

## NWLB Will No Longer Finance West Coast Stabilization Program

Chairman Benjamin Aaron of the Airframe Panel of the National War Labor Board has told West Coast Industry and labor representatives, following a Washington meeting between top NWLB officials and representatives of the various committees set up to study and standardize labor relations on the West Coast, that NWLB does not consider it appropriate to further finance the application and operation of the Southern California aircraft stabilization program. Speaking for George W. Taylor, NWLB vice-chairman, he left it up to the parties concerned as to whether they wished to continue to operate under a uniform job evaluation program or to go back to a basis of plant-by-plant bargaining.



RETRACTABLE AILERONS



PERMIT



FULL SPAN  
WING FLAPS

# Retractable-aileron... a Northrop contribution to slow landings... "hoverability" short take-offs... tight, fast turns

As long as ailerons took up space that could be used by longer flaps, stalling speeds were higher than they needed to be, landing speeds were excessive, and air strips too long and costly.

Now, there's an aileron which frees that vital space on the wing's trailing edge. It's the Northrop Retractable-Aileron—operating upward and out of the wing, well in front of the full-span flap.

This new and more efficient type aileron is the biggest single reason the Northrop Black Widow, despite its heftiness and speed, handles so easily... why it's such an "honest," reliable airplane.

Retractable-aileron and full-span flaps are but two of many advanced features on the Black Widow—features that have made this huge night-fighter more maneuverable, made it the master of the best Axis pursuits.

In peacetime, this Northrop achievement will contribute added safety and comfort through reduced landing and take-off speeds in passenger carrying planes. And in airports of the future it can mean a more economical use of landing strip space. Northrop Aircraft, Inc., Northrop Field, Hawthorne, Calif. Member Aircraft War Production Council, Inc.



**NORTHROP**

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# Sen. McCarran's American Flag Line Bill Reintroduced

**Lea Bill, Measures  
By O'Hara, Holifield  
Randolph Received**

A NUMBER of bills, highly important to the aviation industry, were introduced in Congress during the last fortnight.

Senator Pat McCarran (D., Nev.) reintroduced his so-called American Flag Line Bill (S. 328) Jan. 15. It provides that \$200,000 in Class A (voting) stock would be issued in an All-American Flag Line, Inc. with a top limit of \$50,000,000 for any one company and a minimum required participation of \$5,000,000. Only certificated air carriers would be eligible to participate and their eligibility would be on the basis of their 1943 gross operating revenue. Open hearings on the bill are anticipated.

Rep. Clarence F. Lea (D., Calif.) chairman of the Interstate and Foreign Commerce Committee of the House, has reintroduced his Civil Aviation bill (H.R. 674) which provides for reconstituting the Civil Aeronautics Authority as an independent regulatory agency of the government and which would set up an independent Office of Director of Safety. The bill also includes the CAA National Airport Plan and provides for appropriating \$650,000,000 for improvement and construction of some 3,000 airports in the United States.

Lea told the House that modernization of the Civil Aeronautics Act is necessary to provide an adequate statutory foundation for the new peacetime era in aviation.

## Only Commission Under Executive

With reference to that phase of the bill which provides for the reconstitution of the Civil Aeronautics Authority as an independent regulatory agency, Lea stated:

"The problem here is not of personalities, but a problem of proper organization of a commission which is a creature of Congress set up to perform its delegated functions. Of the six great legislative commissions, this is the only one that is placed under an executive head. Complete in itself for efficient administration, it has a superimposed executive department which necessarily created duplication and delay in the performance of its functions. This bill provides for an independent Civil Aeronautics Commission to eliminate the present duplication."

As to the need for an independent Air Safety Board which was abolished by the Reorganization Act and which would be restored under the title "Office of Director of Safety" under the terms of the Lea bill, the author said:

"It seems clear the principle originally established in the 1938 Act should be restored. The Director will be independent of both the Commission and the Administrator and will be solely responsible for

the investigation of aircraft accidents and the reporting of the causes thereof."

A far-flung investigation of all phases of aviation because it is "imperative that the U. S. maintain its proper sphere in world air commerce during the immediate postwar period of development, is proposed under the terms of Senate Resolution No. 14 introduced in the Senate by Sen. McCarran.

Asserting that the time to determine international air rights for civil air transport to establish a charter for freedom of the air is during peace treaty negotiations and because it is desirable and necessary to accumulate and compile adequate data prior to such peace treaty negotiations, the resolution authorizes an investigation on nine specific subjects by the Committee on Commerce. The subjects follow:

## Can They Be Adapted?

1. The feasibility of adapting current types of aircraft used in the war effort to use in civilian transport.
2. The feasibility of incorporating in the construction of civil aircraft such features as will make them readily adaptable for immediate conversion and use for war purposes.
3. The feasibility of using world air transport as an international air police force to enforce peace terms.
4. The program of training and providing a reserve of skilled aircraft personnel, including ground crews and operations personnel for the immediate mobilization of civil air forces to adequately meet war emergencies, as well as preliminary training of personnel to be directly available to the War and Navy Departments in a war emergency.
5. The provision for world-wide weather observation facilities for forecasting weather all over civil airways, both domestic and foreign.
6. The provision for adequate landing and refueling facilities for world air commerce.
7. The planning, development, and construction of aircraft which will assure to the United States at all times its proper sphere in world air commerce.
8. The coordination of civil air transport with other means of transportation.
9. Any other matters which such committee or subcommittee may deem it necessary to investigate for the purpose of obtaining adequate information to enable it to make recommendations for the supremacy of the United States in world air commerce. The committee shall report to the Senate, from time to time, the results of its investigation, together with its recommendations.

The resolution provides that expenses, not to exceed \$50,000, shall be paid from the contingent fund.

Under the terms of H.J. Res. 20, introduced in Congress by Rep. Jennings Randolph, a 15-man Air Policy Commission would be formed to make a full study and investigation of the problems created by and associated with present and future developments in military and civil aviation and to recommend basic national policies on (1) air power as an in-

## Cigarette Allotments

In a move to maintain equitable distribution to employees of those cigarettes which are available during the current shortage, Northrop Aircraft has issued a cigarette allotment card to each employee. The card has 12 numbers around the edges.

When a sufficient supply of cigarettes is accumulated to assure one package for each employee, a number is posted. This number is punched out of the employee's allotment card when he purchases cigarettes. Allotment numbers remain in effect for several days to eliminate a buying rush when a supply is placed on sale.

Allotment cards are good only when presented by the employee to whom issued, and together with a plant identification card. Cards are not replaceable if lost, stolen or destroyed.

As rapidly as new supplies of cigarettes become available new numbers are posted at each trading post.

strument of national defense and international security and (2) the expansion of civil aviation. The bill is identical with bills introduced in the 78th Congress by Rep. Randolph and Sen. James E. Murray (D., Mont.) and the commission would serve a function similar to the "Morrow Board" following World War I.

The McCarran Airport bill, (S. 2) provides for the expenditure of \$1,000,000,000 by federal, state and local governments in the construction or improvement of 6,000 airports in the form of a five-year postwar, public-works program.

"This bill," Sen. McCarran told the Senate, "effects a compromise between those who advocate an airport program on a federal-state basis and those who support a federal-city basis which has been used so successfully in developing in this country the greatest system of airports in the world."

## Hails Federal-City Basis

Asserting that "we should not be too hasty in wholly discarding the successful federal-city basis of the past," Sen. McCarran said: "It will take some time for the states who have done relatively little airport work up to the present time to secure the necessary legislation and financing for such a substantial program. I have accordingly divided the program one-half to states and one-half to cities and counties. This is accomplished by assigning to the states the construction of small airports with the larger airports to be handled on a federal-city basis."

McCarran's bill provides that the federal government shall appropriate \$100,000,000 per year for five years, to be matched by an equal amount of state and city funds. This, McCarran said, would provide the means for carrying out with some slight variation, the CAA National Airport Plan recently recommended to Congress.

Section 7 of McCarran's bill provides that all projects to be developed under the federal-urban program shall be reviewed by Congress. Funds not appropriated in





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Through shop techniques as modern as magnesium itself, this lightest structural metal is now extending its usefulness in the aircraft industry, and also to broad, new fields of application. Freed from outmoded limitations, products are taking new forms in the design trend of today.

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wherever the need is for combined lightness and strength has definitely stimulated its expanded use.

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THE METAL OF MOTION

the urban program will then go to the state program.

Under Section 12, the bill provides that the various requirements for eligibility of states as set up in this section shall be suspended for three years in order that the states may have an opportunity to adopt the necessary legislation for participation in the program.

Section 14 attempts to aid those states and cities which have difficulty in obtaining land for airport purposes under existing condemnation laws to request federal condemnation powers available to the state.

Under the terms of H.R. 532, introduced by Rep. Joseph P. O'Hara (R., Minn.) the liability of air carriers, to passengers in cases of accidents resulting in death or injury, or in loss of or damage to baggage, or because of delays, would be clarified. In cases of bodily injury, recovery would be limited to "the extent of the actual damage but not to exceed \$50,000." Death of a passenger would be compensated by payment of not to exceed \$10,000. Unreasonable delay in the delivery of baggage or goods would be compensated under another formula involving actual loss sustained by the passenger or shipper. Liability for injury to persons or property "on the surface of the earth" (other than passengers) also would be fixed.

A bill by Rep. Chet Holifield (D., Calif.) H.R. 1173 would set postal rates on air mail, other than first class, on a zone basis, such as the following:

More than—	But not more than—	Rate per pound or fraction thereof
0 miles	600 miles	44 cents
600 miles	1,000 miles	48 cents
1,000 miles	1,400 miles	54 cents
1,400 miles	1,800 miles	60 cents
1,800 miles	2,200 miles	66 cents
2,200 miles	2,600 miles	72 cents
2,600 miles		78 cents

Sen. William Langer (R., N. D.) has asked the Special Senate Committee on Investigation of the National Defense program to submit its report on "Aircraft Accidents" at an early date.

Langer read to the Senate newspaper accounts of a War Department release dated Oct. 14, 1944 wherein it was stated that more planes had been lost in training than in combat, in support of his demand that the special Senate committee should complete its work of investigating the cause of these accidents. He quoted from a committee report dated July 10, 1943 wherein the committee stated it was engaged in a study of plane crashes and that, at the subsequent date, it would report its findings.

### Critical Aircraft Up 32%

The War Production Board reveals that critical aircraft production in December was 32 per cent ahead of the previous month, but that an additional 2 per cent rise was needed to meet the January quota. In the second half of 1944 the critical aircraft program registered a gain of over 150 per cent over the previous six months. The total aircraft production figures for December, including both critical and non-critical programs, were 2 per cent ahead of November, but 2 per cent under the scheduled quota.

## NACA Presents 10-Point Statement of Policy to House Committee

A TEN-POINT statement of policy prepared by the National Advisory Committee for Aeronautics was presented to the House Select Committee on Post-War Military Policy Jan. 26 by Dr. J. C. Hunsaker, chairman of the NACA. Pointing out that research was the basis of both military and civil aviation supremacy, and that in order to maintain our commercial position in the postwar era, the NACA should endeavor to direct an increasing proportion of its research effort to the technical problems of civil aviation with a view to their practical solution, the statement recommended that the Army Air Forces, the Navy Bureau of Aeronautics, the Civil Aeronautics Board, the Civil Aeronautics Administration and the NACA follow 10 general policy considerations in the postwar utilization of government research, development and testing facilities.

These policies are:

A. Fundamental research in the aeronautical sciences is the principal objective of the NACA. Such research is directed toward the solution of the problems of flight and results are promptly published. In exceptional cases research results of potential military importance may be withheld from publication.

B. Research of the NACA is not considered completed until results are tested by sufficient practical application. In general, NACA research will not include the development of specific aircraft or equipment.

C. Research programs of the NACA are formulated in close collaboration with technical personnel from the Government agencies concerned and from industry, through membership on appropriate subcommittees. Members of all technical subcommittees of NACA are appointed as individuals especially qualified in their particular fields.

D. The research facilities of the NACA may be used to assist a Government agency in evaluation of specific aircraft and equipment, whenever facilities available to that agency are inadequate.

E. The research facilities of the NACA may be used to assist private individuals and corporations whenever commercial facilities are not available; provided that, the investigation is considered by the NACA to be in the public interest; and provided further, that the cost be met by the individual or corporation requesting assistance.

F. Application of research results to the design of improved aircraft and equipment, both civil and military, is the function of the industry, assisted as may be necessary by contracts for experimental articles, placed in a manner to stimulate competition for quality. It is recognized that the encouragement of competitive engineering organizations is essential.

G. The evaluation of military aircraft and equipment developed by the industry, and the exploration of possible military applications of research results are considered to be the function of the Army and Navy.

H. Expedition of the practical use in civil aeronautics of newly developed aircraft and equipment, in so far as Government assistance may be necessary, is considered to be the function of the Civil Aeronautics Administration.

I. The NACA normally will use its own research facilities, but will contract with university or other private research organizations for work in special fields where outside facilities and competence are to be found. Likewise, the facilities and competence of the National Bureau of Standards, Forest Products Laboratory, and other Government research centers will be used by the NACA whenever practicable.

J. Unnecessary duplication of facilities and effort will be avoided by adherence to the principles stated above, but for important problems whose practical solution appears to be especially difficult, parallel attack by several independent research teams is necessary. In such case, NACA laboratories, industry designers, Army, Navy, and Commerce groups and individual scientists and inventors may work on various aspects of the same basic problem. Such parallel attack must be coordinated, and it is the policy of the NACA to achieve such coordination through the medium of subcommittees of experts representing all concerned.

### Large Block of CMA Stock Sold in Mexico; President Of Bank Named a Director

Pan American Airways announces the sale of a large block of stock in its subsidiary, Compania Mexicana de Aviacion, to Mexican businessmen and industrialists. Among the new CMA stockholders is Eduardo Villaseñor, head of the Bank of Mexico, and considered one of the leading financiers on the continent. He has been elected a member of the Board of Directors of the airline.

Other directors elected were: Evaristo Araiza, president of Mexico's largest steel foundries, Fundidora de Fierro y Acero; Aaron Saenz, head of Azucar, S. A. Mexico's sugar combine; Prisciliano Elizondo, Mexican industrialist; Jose de la Mora, president of Atoyac Textil, a large Mexican textile industry; Col. Pedro A. Chapa, head of the Mexican Transport Association; Alfredo Flores and Enrique M. Loaeza, prominent attorneys; Roberto Pesqueira, director of Southern Pacific Railways of Mexico; George Rihl, CMA founder; Wilbur L. Morrison, Pan Am's Latin American Division vice-president, and Howard B. Dean, vice president of Pan American Airways, New York. CMA's general manager is Elton R. Silliman, long-time PAA diplomatic and business counsellor in Mexico, Central and South America.

During the past year, CMA broke all of its own previous operation records to put Mexican civil aviation far ahead of other Latin American countries.

AS THE FURY OF THE WAR INCREASES...

# AMERICAN EXPORT AIRLINES STEPS UP TRANSATLANTIC FLIGHTS



An Army Air Transport Command C-54 on apron at AEA Operations Base, La Guardia Field.

**TAKES ON NEW JOB—CONTRACTS TO OPERATE LARGE 4-ENGINE TRANSPORT PLANES FOR AIR TRANSPORT COMMAND, IN ADDITION TO ITS OVERSEAS COMMERCIAL AIR SERVICE**

AS THE TEMPO of the war increases and the call for more and ever more supplies arises from every battlefield, the role of transatlantic aviation takes on a new and even greater importance.

Speeding men and materials to the crucial areas is no new task to American Export Airlines. The major part of its facilities, and 100% of its effort have been engaged in war work practically from the very start of hostilities.

Now the company has signed a contract to operate a fleet of giant four-engined C-54 land planes for the Air Transport Command of the U. S. Army Air Forces.

Under the terms of the contract the

Army Air Transport Command will utilize the broad experience which the company has amassed through its regular transatlantic commercial operation, together with its more than two years of flying seaplanes for the Naval Air Transport Service.

Thus American Export Airlines—the line which gave the world its first and only non-stop commercial transatlantic airplane travel—starts a new chapter in an already distinguished war record. The new Air Transport Command Operation will be kept separate and distinct from the company's certificated service on the New York—Ireland—Africa route, with direct connections for England at Foynes, Ireland.



## "Flying Ace" Commercial Service to Europe

Starting immediately, American Export Airlines offers commercial service via the "Flying Aces" for passengers (one way and round trip tickets) and air express from New York to Ireland, England, Africa and points beyond, subject to Government regulations.

This "Flying Ace" service provides dependability, speed, excellent borths, hot meals cooked aloft, trained nurse-stewardess service, and other distinctive features.



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# Federal-State Views on Lea Bill Aired at Airport Meeting

## More Conciliatory Attitude Evident But Dispute Seen

By GERARD B. DOBBERN

**EARLY PUBLIC HEARINGS** on the Lea Aviation bill (H.R. 674) which would reconstitute the Civil Aeronautics Authority and Air Safety Board as independent agencies and include a federal-aid national airport plan, are expected to bring into sharp relief the differences between the federal and state governments over policies that shall govern the development of postwar civil aviation.

While there are evidences of a more conciliatory attitude on the part of both groups, the Joint Airport Users Conference held in Washington Jan. 15 brought out the essential differences in the viewpoint of state and federal agencies and set the stage for the dispute which is likely to develop when the various aviation bills come up for hearing.

That aviation and airport legislation will come out of the present Congress appears to be certain. That compromises will be necessary appears probable. But generally speaking, the hand of the federal government seems to have been strengthened by proposals to authorize, by law, the creation of a federal aid airport plan which calls for the expenditure of one billion dollars on a nation-wide system of airports during a period from five to 10 years after the war. The vote-getting potentialities of such a program, accentuated by statements of the need for a federal works program to take up the employment slack when peace comes, should not be underestimated.

### 5 Airport Bills Before Congress

There are five major bills before Congress dealing with various phases of an airport construction program. They are: H.R. 4 by Rep. Jennings Randolph (D., W. Va.) and its companion S. 34 by Sen. Josiah W. Bailey (D., N. C.); H.R. 1125 by Rep. Cecil R. King (D., Cal.) and its companion S. 2 by Sen. Pat McCarran (D., Nev.); H.R. 674 by Rep. Clarence F. Lea (D., Cal.) and the old Randolph bill, re-introduced as H.R. 287.

The Randolph-Bailey, King-McCarran and the Lea bills have been interpreted as compromise measures while the old Randolph bill, now H.R. 287, is regarded as the measure which is most likely to receive the support of state aviation officials. H.R. 287 incorporates an apportionment of federal funds on a formula which includes population, area, number of civil aircraft, and number of civil airports. Some of the opponents of this bill have raised the doubt that such a formula is practicable or workable, but state aviation officials appear to favor it because the funds would be administered at the state, rather than federal and local levels. This bill would appropriate 100 million dollars for 10 years, on a 50-50 matching basis.

Under the Randolph-Bailey bill (H.R. 4 and S. 34) one billion dollars would be spent in 10 years, on a 50-50 matching basis, with 75 percent of the funds going to the state and 25 percent to cities on a basis where the division would be between fourth class airports and above. The funds would be allocated on an area-population basis.

The McCarran-King bills (S. 2 and H.R. 1125) provide for appropriation, on a matching basis, of one billion dollars in the first five postwar years. Funds would be allocated to States on an area-population basis, 50 percent to state commissions and 50 percent to cities with the division between third class airports and above.

The Lea bill, which combines reorganization of the Civil Aeronautics Authority and an airport construction program, authorizes the appropriation of 650 million dollars for construction and improvement of airports in the first 10 years after the war. Under the terms of this bill, either state or local governments could sponsor projects for airport development in somewhat the same manner that PWA projects were processed a few years ago. The Lea bill, it is understood, will be favored by the National Institute of Municipal Law Officers and probably will



**Mercy Helicopter** —A Buffalo physician is shown boarding a Bell Aircraft Corp. helicopter to fly to the aid of an injured test pilot, stranded in a snow-bound Lockport, N. Y., farmhouse. Pilot Floyd Carlson (shown in cockpit) put the craft down in the yard of the farmhouse after flying over 25 miles of snow-clogged roads. The physician, Dr. Thomas C. Marriott, administered medical aid which probably saved the pilot's life.

## Mars Sheds Coat

For the first time since she entered the service of the Naval Air Transport Service, the Martin Mars has shed her coat of dusty-blue paint. And what a coat! It weighed 628 pounds! Thus, for each trip between California and Hawaii, the "Old Lady" saves 580 pounds of fuel needed to carry the paint. And, overall, she saves some 1,200 pounds for additional payload. Besides all this, Glenn L. Martin engineers estimate she increases her cruising speed 4.3 miles per hour, even with the additional payload, by losing the air drag of the paint.

generate considerable support among city officials.

It is felt that any dispute over impending aviation legislation will center around the Lea bill for several reasons. Lea is chairman of the Interstate and Foreign Commerce Committee of the House which has jurisdiction over all aviation bills. This will place his bill in an enviable position as far as committee consideration is concerned. Further, because of its comprehensive nature, it represents the one measure which will attract the interest of all phases of the aviation industry. While some changes were made with respect to reconstitution of the Civil Aeronautics Authority over the Lea bill of last year, the bill follows the same general pattern, with some concessions, it is said, to the States rights issue on Federal controls and division of authority.

Modernization of the Civil Aeronautics Act is necessary to provide an adequate statutory foundation for the new era in aviation which will be ushered in by the restoration of peace, Rep. Lea told the House in connection with his introduction of H.R. 674.

### Problem of Organization

With reference to that phase of the bill which provides for the reconstitution of the Civil Aeronautics Authority as an independent regulatory agency, Lea stated: "The problem here is not of personalities, but a problem of proper organization of a commission which is a creature of Congress set up to perform its delegated functions. Of the six great legislative commissions, this is the only one that is placed under an executive head. Complete in itself for efficient administration, it has a superimposed executive department which necessarily created duplication and delay in the performance of its functions. This bill provides for an independent Civil Aeronautics Commission to eliminate the present duplication."

As to the need for an independent Air Safety Board which was abolished by the Reorganization Act and which would be restored under the title "Office of Director of Safety" under the terms of the Lea bill, the author said: "It seems clear the principle originally established in the 1938 Act should be restored. The Director will be independent of both the Commission and the Administrator and will be solely responsible for the investigation of aircraft accidents and the reporting of the causes thereof."

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The logo for Continental Red Seal Engines, featuring the word 'Continental' in a bold, sans-serif font, followed by 'Red Seal' in a script font with a circular emblem containing a stylized 'E' between the words, and 'Engines' in a bold, sans-serif font below. The entire logo is set against a dark background with a light-colored border.

**Continental**  
**Red Seal**  
**Engines**

# Boondoggling Seen if Airport Legislation is Not Approved

## Users Conference Warned of Need for U. S.-State Accord

THE JOINT AIRPORT USERS Conference, sponsored by the National Aeronautic Association in Washington Jan. 15, gave evidence that battle lines are being drawn by state and federal interests over postwar domestic aviation policies as represented by several bills now before Congress.

While it appears certain that most of the 44 states whose legislatures meet this year will adopt legislation which will permit them to participate in whatever federal legislation that goes on the statute books, particularly with reference to federal aid programs, the Conference furnished proof that a hard fight lies ahead as to the degree of control which the federal government will exercise in the postwar era of aviation.

Some proponents of the several bills in Congress, especially legislation for creating a national airport plan and accompanying appropriations for one billion dollars to build or improve some 3000 airports, indicate they will attempt to sell Congress this program on the basis of the need for a postwar public works program to help take up the expected slack in employment.

This idea was brought out by Lowell H. Swenson, manager of the NAA, at the Conference.

"It is obvious that public works will be a major cushion when the wheels of war industry come to a stop. Regardless of personal views on the subject of federal spending, let's face the facts, the realities. The National Association of Manufacturers maintain that government-made work must furnish the majority of the 60 million jobs deemed necessary after the war," Swenson said.

"Cities that hold the view that such a public works program should be discouraged can continue to uphold that theme. But they, and we, should recognize that the tide is rolling against them, and they, and we, should prepare accordingly. . . . Shall there again be artificial lakes, roads beginning nowhere and leading nowhere, stone fences, monuments, thousands of pretty little rustic bridges useful chiefly to amateur photographers when it snows?"

Then emphasizing the need for federal and state aviation legislation, Swenson indicated there would be boondoggling again if states and cities are not prepared to use the federal money in other ways. He said that the 44 legislatures meeting this year, have the opportunity and the responsibility of passing legislation making it feasible for federal public works money to be expended on landing facilities within their jurisdictions.

J. B. Bayard, Jr., chief of the Planning and Survey Division, Airport Service, Civil Aeronautics Administration said

that in presenting the National Airport Plan to Congress, the CAA was holding its sights on the broad, national picture, on the needs for airports in every part of the country, and on the effects which an adequate airport program would have on the lives of 132,000,000 people.

"The airport system may be said to be in the same position today that the highway system was in 1916—with one important exception caused by the war," Bayard stated.

Calling attention to the fact that it was in 1916 that Congress over much opposition, launched the federal aid highway program, Bayard said the essential difference from today's aviation picture was that in 1916, we did not have a huge auto industry. Today, he said, we do have an aviation industry.

Carrying the analogy further, Bayard said in 1916 there were relatively few autos because of a lack of good roads. "I don't think we should feel too badly about our lack of widespread sales organizations and distributing systems . . . We don't have the places to base our planes," he stated.

Urging the development, by industry, of a popular useful plane, Bayard predicted that airports will have economic importance if there are enough of them



### Airpark Ambulance—

The buildings in the background include two large St. Louis hospitals. The Cub ambulance plane demonstrates that it could transport a patient to a field convenient to the hospitals. It was one of a dozen small planes which recently took part in a NATA demonstration of the practical utility of an airpark by making landings in Forest Park, which is located in the built-up area of St. Louis.



**Convair Gets No. 1**—Harvey C. Tafe, Consolidated-Vultee Aircraft Corporation's Washington representative, is shown (right) receiving associate membership Certificate No. 1 for his company from Feeder Airlines Association's Harry R. Stringer. Beverly E. Howard, chairman of the FAA Membership committee, looks on.

and if the general economic level of the people makes it possible to own these planes and use these airports.

Bayard said that at a glance, new model planes appear to be only modifications and refinements of the 1941 private plane.

"I for one do not believe that a sizeable private flying industry can be built upon planes like these. It may be we are impatient, and that the various manufacturers have new and better planes designed and ready to produce, but we can only say that the great mass of the public, known to be interested in private flying, has not been offered or promised any air vehicle yet which offers more utility than previous models.

Stating that industry objections to plans which CAA has formulated for helping the industry to develop private planes of the required utility have largely vanished, Bayard said CAA would do this job through methods proved to be successful—by contract with private firms.

"So, I have attempted to show the economic relationship of the airport program would serve a dual purpose in times of prosperity while in times of depression its contribution to employment would be well worthwhile. If we have good times after the war, the people will be able to buy planes. If we have the right kind of planes, the people will buy them. If they buy planes, this program will provide them with airports on which to use them. If we have bad times after the war, this airport program will serve as a valuable source of jobs," Bayard concluded.

L. L. Schroeder, Commissioner of Aeronautics for Minnesota, gave the Conference assurance that every state legislature meeting this year will pass "pretty sound and reasonable" airport and aviation legislation which will be predicated, as far as possible, on a desire to co-operate with and supplement a federal regulatory and financing Acts.

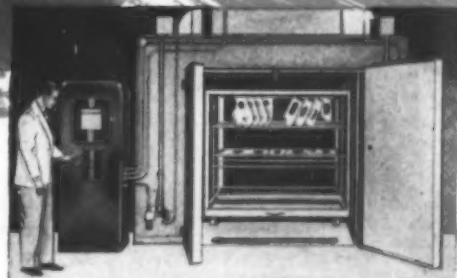
Schroeder spoke after Arnold Knauth, of Washington, D. C., editor of U. S. Aviation Reports, had analyzed five pending bills in Congress which authorize a federal-state aid program for the building of airports in accordance with a national plan.

The State Aviation Codes, prepared





## Faster, Lighter Aircraft, Greater Pay Loads through New Techniques in Processing Aluminum Alloys...



How to develop airplanes capable of carrying greater pay loads at higher speeds by reducing structural weight? That's the aeronautical engineer's basic problem.

To accomplish this end could a metal be found which had the lightness of Aluminum and the strength of steel? Yes, Aluminum alloys could be post-aged to give them this much desired strength. But, the process so reduced the corrosion resistance of the metal that full advantage could not be taken of this development.

Ryan metallurgists tackled the problem and came up with a procedure which yields a light corrosion-resistant alloy with the strength of low carbon steel.

Ryan engineers have been *first* to make full use of this weight-saving development in the design and construction of aircraft. This advantage, which adds to the deadliness of American warplanes, will be equally valuable to the peacetime planes of the future.

**THE PROBLEM:** How to take advantage of the extra strength imparted to Alclad 24-S by the post-aging process. The strength of this metal, composed of an Aluminum alloy covered with a thin deposit of pure Aluminum, may be increased by post-aging. However, this has always been accompanied by a loss in corrosion resistance which prevented aeronautical engineers from completely utilizing this advantage. The aging reduced the galvanic potential between the alloy and the clad Aluminum and removed the electrolytic protection it afforded.

**THE SOLUTION:** Ryan research found a way to obtain the strength increase and maintain high corrosion resistance: The Alclad is placed in an oven and held to a temperature of 365° F. for ten hours. This induces a copper precipitation and raises the tensile strength at least 20%. Then the corrosion resistance is restored by anodizing a thin layer of oxide on the surface and spraying it with a zinc chromate primer.

**THE ADVANTAGES:** By ordering specified stock, post-aging at carefully controlled temperatures and anodizing and priming, Ryan has created new possibilities for Aluminum alloys. The entire aircraft industry may now have the benefit which this metal, with Aluminum's lightness and steel's strength, gives to every designer and builder of airplanes.

RELY ON RYAN  
TO BUILD WELL

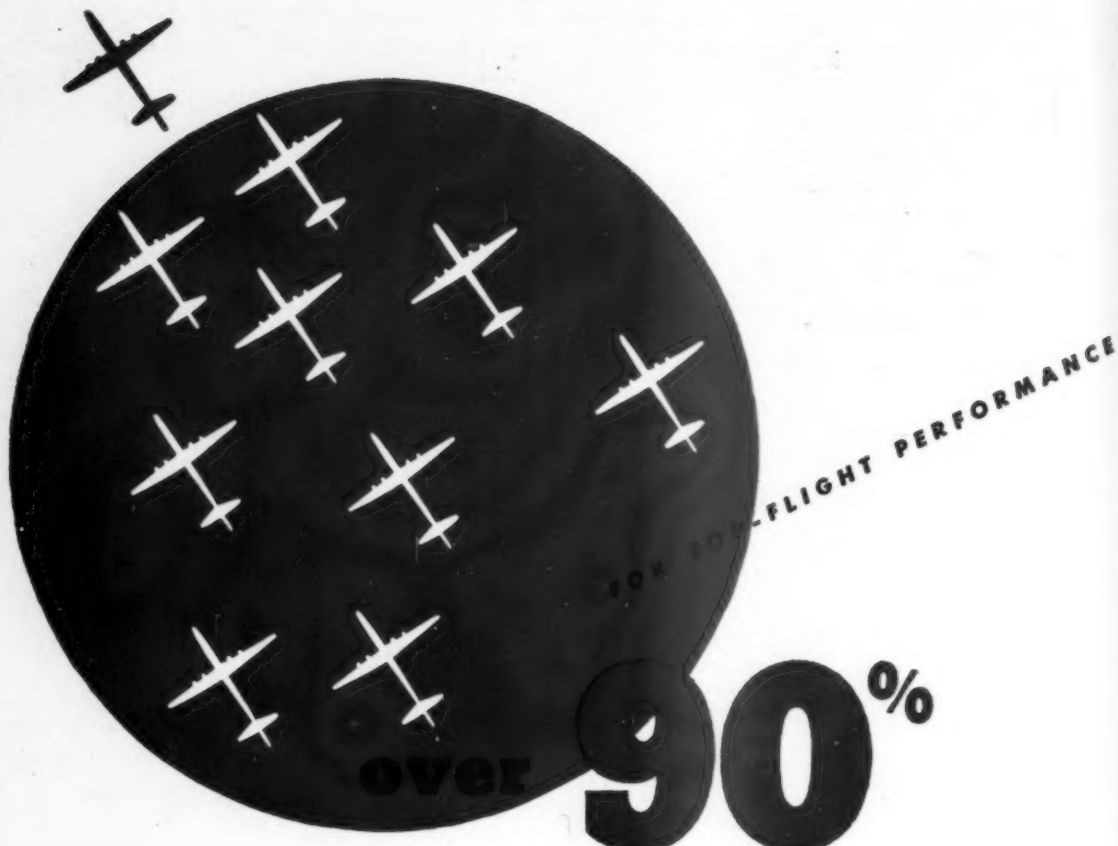
1922-1945



# RYAN *Airplanes*

Ryan Aeronautical Company, San Diego — Member, Aircraft War Production Council, Inc.

DESIGNERS AND BUILDERS OF NAVY FIGHTING PLANES AND EXHAUST MANIFOLD SYSTEMS



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The most exacting tests known to industrial science are employed to assure the closest possible approach to perfection. Material analyses delve beyond physical characteristics and chemical composition, down to the very arrangement of the atoms themselves.

Performance tests pass through hours, weeks, months... under the watchful eye of renowned experts who may journey from the far corners of the globe.

Is it any wonder, then, that we of Stromberg believe no more conclusive statement of product excellence can be given you than to set forth this fact:

Over 90% of all American built planes use Stromberg Carburetion.

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under the direction of the National Association of State Aviation Officials and endorsed by the National Aviation Clinic, the National Conference of Attorneys General and several regional meetings of the Council of State Governments, will be introduced in all of these state legislatures, Schroeder said.

While emphasizing that the desire to co-operate with the federal government is on the ascendancy in state and local circles, Schroeder made it plain that certain provisions in the airport bills now before Congress will face opposition when bills to create state aviation departments and enabling airport legislation are considered in the state legislatures.

Schroeder said some of the proposed federal controls beyond the actual period of airport construction did not seem entirely necessary, that proposals in the federal-state aid bills which make mandatory the dedication of certain airport revenues, such as state taxes on airplane fuels, to airport and aviation use were slated to hit legislative snags. Schroeder stated that the thinking of groups engaged in making studies on sound government is distinctly away from the dedication theory and many state legislators, responsive to the demands and needs of their constituencies, will resent such federal dictation.

He said that the so-called National Airport Plan, formulated by CAA, was being criticized in some state circles because it did not give more voice and expression to the state viewpoint. He pointed out that states wanted a part in formulating state airport program, that they were interested in the tax angles, that they were concerned over CAA's loose classification of airports and that so-called insurance provisions of federal bills, requiring specific performance of contract over long periods, were points of friction which would have to be ironed out.

Many state legislatures, Schroeder said, will have to pass constitutional amendments permitting the state to create aviation departments while many other states will have to bring their enabling laws up-to-date. These programs are already under way in many states, he said.

Knauth gave the conference a general background of all of the federal bills, stating that most of the bills had much in



**Wins Bronze Star—Col. A. H. Stackpole**, vice president of American Aviation Associates, Inc., has been awarded the Bronze Star Medal for meritorious service in China. Col. Stackpole, whose home is in Harrisburg, Pa., has been overseas more than a year as an American liaison officer with the Chinese Army.

common. In general, he said the bills were patterned closely after the Federal-State Aid highway act and that to the extent that provisions had worked well in the highway program, he saw no reason why they would not work in a co-ordinated federal-state aviation program.

He then analyzed the essential differences in the proposed bills. He appeared to favor the five-year airport construction program of the McCarran bill (S. 2) doubting the wisdom of trying to commit any Congress to a 10-year program. He approved the distribution of funds on an area and population basis, rather than so-called highly technical formula of the Bailey-Randolph bill. "Only the McCarran bill is workably phrased and set-up on this point," Knauth stated.

#### Two Meetings Cancelled

The Institute of the Aeronautical Sciences cancelled its Honors Night dinner and the technical sessions of its annual meeting to cooperate with the recent Government appeal to refrain from holding conventions and meetings requiring the use of transportation facilities. The Honors Night dinner was scheduled for Jan. 29 and was to be followed by three days of technical sessions at Columbia University. The 45 technical aeronautical papers which were to be presented at the meetings will be made available to members through the Institute's publications. The National Aeronautic Association's annual business meeting, scheduled for Jan. 30-31 in Denver, also was cancelled to cooperate with the Government.

He suggested that Alaska, Hawaii and Puerto Rico ought to be brought into the program lest credence be given to criticisms of logrolling in the sense of vote trading. He also made several other suggestions along the lines of "clean bill drafting" where specific dates and periods and classifications should be named rather than resorting to ambiguities now found in these bills.

The panel discussions, starting slowly and cautiously, finally brought out in sharp relief some of the fundamental differences between local, state and federal interests as to the CAA. National Airport Plan and the proposed legislation which would put the plan in operation.

Some state officials held that CAA had placed "the cart before the horse," that the need should be based on expressions and survey by the local units which would be asked to match federal funds and maintain the airports once they were built. Out of this program of local needs would evolve a state plan and out of the state plan a national plan.

The discussion emphasized the difference of opinion over the function of government and the use of federal funds which one delegate described as "the money we raise at home, send to Washington, and after the federal government takes its percentage, sends some of it back to us."

## Florida Clinic Launches

### State Aviation Program

A committee was appointed at the Florida Aviation Clinic, held at Orlando in January, which will draft final proposals to be recommended to the Governor's Aviation Advisory Board for consideration as a state aviation program. The proposals will be submitted to the legislature which will meet in April.

The recommendations will include: creation of a state aeronautics department, adoption of a uniform airports act, passage of a uniform airport zoning measure, an amendment to the state condemnation procedure enabling the acquisition of suitable airport sites, and authority to draw up a plan to finance the aeronautics department.

The first three measures will be patterned after the Uniform State Aviation Codes drafted by the National Association of State Aviation Officials.

#### Navy Moves to Avoid Suits

Secretary of the Navy Forestal has sent out a letter to the Navy's 18,000 prime contractors requesting that they agree, in consideration of others so agreeing, that they will not assert any claims for patent infringement arising out of utilization of inventions during the war for governmental purposes. The letter further states that no acceptance of the proposal shall be binding until substantial unanimity of agreement has, in the opinion of the Secretary, been indicated. In industry circles it was pointed out that the sharing of information on many time and labor saving devices developed by employees and tool engineers had had to be withheld in the past for fear of provoking infringement suits.

## Mississippi PSC Denied

### Control Over Air Permit

Authority of the Public Service Commission of Mississippi to issue certificates for intrastate air carriers has been denied by the Circuit Court of Hinds County, Jackson, Miss. An appeal probably will be taken to the State Supreme Court.

The Commission on May 8, 1944 granted certificates to three applicants: South Mississippi Airways, Cox Airways and Magnolia State Airways.

After the Circuit Court decision the Commission generally continued an application of Cyrus W. Emery for a certificate to operate an intrastate airline until the Supreme Court can rule on the Commission's jurisdiction.

Chicago and Southern Air Lines and Delta Air Corp. and several surface carriers opposed the applications for intrastate certificates.



# Forty-one Legislatures in Session; Scores of Aviation Bills Coming Up

**Louisiana, Mississippi,  
Kentucky and Virginia  
Have No '45 Assemblies**

**F**ORTY-ONE state legislatures of the 44 which will meet in 1945 are now in session. Under consideration are scores of bills dealing with practically all phases of aviation, a majority of them model, uniform bills prepared and advocated by the National Association of State Aviation Officials, National Institute of Municipal Law Officers, Civil Aeronautics Administration, the Federal-State Division of the Department of Justice, and the National Association of Railroad and Utilities Commissioners.

All but Kentucky, Louisiana, Mississippi and Virginia are scheduled to meet this year. Of the 44 scheduled to meet, all were in session when this was written except Alabama, Florida and Georgia.

The subject of the recommendations dealing with aviation submitted thus far are as follows:

## State Regulation of Air Carriers

Bills designed to place intrastate air carriers operations under the control of their railroad and utilities commissioners are pending in Massachusetts (H. 176) and Ohio (S. 10). Both of these proposals are based upon the so-called "Uniform State Air Commerce Act" adopted by the members of the National Association of Railroad and Utilities Commissioners at their annual meeting in Omaha, Neb., last November, and recommended by them for general state adoption.

## Taxation of Gasoline Consumed by Airplanes

In Oregon a bill (H. 49) has been introduced to provide for a 5c tax on gasoline consumed by airplanes, the proceeds thereof to be utilized, according to present information, for "airstrips". In Massachusetts (H. 765) the bill provides for taxation of fuel used in airplanes and boats, although at the present time airplanes are relieved from taxation in that state.

It is rumored that in other states measures will be proposed for the discontinuance in whole or in part of the refunds of taxes on gasoline consumed in airplanes for airports and other aeronautical purposes but we have no records as yet of specific states and specific measures wherein such policies are advocated.

## State Commissions

Bills creating state aviation commissions where none now exist have been introduced in Missouri (H. 82) and Washington (H. 18). Other measures of this nature designed to increase and enlarge the powers of existing state aeronautics commission have been presented to the lawmakers of Arkansas (S. 25), Colorado (S. 144) and Iowa where the bill number is not yet known.

All of these proposals are patterned after Part 1 of the Uniform State Aviation Codes dealing with "State Aeronautic Department Act" advocated by the National

Association of State Aviation Officials. It is reported that many other state legislatures will be called upon to consider and adopt similar legislation.

## Airports

Already in 16 states bills have been introduced dealing with the powers which municipalities should have to enable them fully and properly to establish, construct, maintain, operate and finance airports. In the majority of cases these proposals are based upon Part 2 of the Uniform State Aviation Codes dealing with "State Airports Act" adopted by the National Association of State Aviation Officials at their annual meeting in Oklahoma City, Oklahoma last November. It should be noted, however, that these models are usually restricted to meet requirements peculiar to the laws of the various states dealing with municipalities or various classes of municipalities.

## Airport Zoning

As a guide to state legislatures in dealing with the vitally important matter of the zoning of airports, the National Institute of Municipal Law Officers and the Civil Aeronautics Administration jointly prepared and advocated a "Model State Airport Zoning Act". In the legislatures of the following five states airport zoning matters, largely inspired and based upon this model, have been introduced: Arizona (S. 15), Colorado (S. 145), Pennsylvania (S. 113), Washington (H. 19) and Utah (H. 18).

Many other bills dealing with miscellaneous aeronautical subjects have been introduced. Without attempting to discuss these matters in detail or indicate the



particular state legislatures which have been asked to consider them, it may be said that they deal with such matters as enlarging powers of insurance companies to write aircraft policies; studies of aeronautics; civil air patrol; flight strips; and one in New York State which memorializing the President and Congress to create in the cabinet a position to direct and supervise activities pertaining to the regulation of civil aviation; etc.

## Congressional Flying Club Elects Randolph President

The Congressional Flying club, with a membership of approximately 80 members of Congress and Capitol Hill employees, has elected Rep. Jennings Randolph (D., W. Va.) president for 1945. Others named to office were: vice president, Rep. Karl Stefan (R., Neb.); secretary, Mrs. Alline Dozier, secretary to Rep. Charles E. McKenzie (D., La.) and treasurer, Rep. Fred Bradley (R., Mich.). Directors chosen were Representatives Evan Howell (R., Ill.), J. LeRoy Johnson (R., Calif.), Clair Engle (D., Calif.), Richard F. Harless (D., Ariz.), Carl Hinshaw (R., Calif.), Robert Rockwell (R., Colo.) and Miss Marcella Langdon, secretary to Rep. Harris Ellsworth (R., Ore.).

## FBI Seeks Aviation 'Promoter'

The Federal Bureau of Investigation has asked the cooperation of San Francisco Bay Area aviation enthusiasts in apprehending a Federal fugitive, whose "line" is promoting airports and aviation, accompanied by the passing of bad checks. The man goes under the name of Tracy Kelton Teague, is 5' 9", weighs 190 lbs., "is freckled, has a Texas drawl, wears glasses, and drives a Cadillac with a Florida license," the FBI reports.

## Ninety-Nines Reorganized

The Washington, D. C., chapter of the Ninety-Nines is being reorganized with the first meeting scheduled for 6 p.m. Feb. 7 at the Blackstone Hotel in Washington. Miss Blanca Palacios, secretary of the U. S. wing of the Inter-American Escadrille, will be the guest speaker. National headquarters for recruitment of members have been established in the offices of the National Aeronautics Association in Washington.

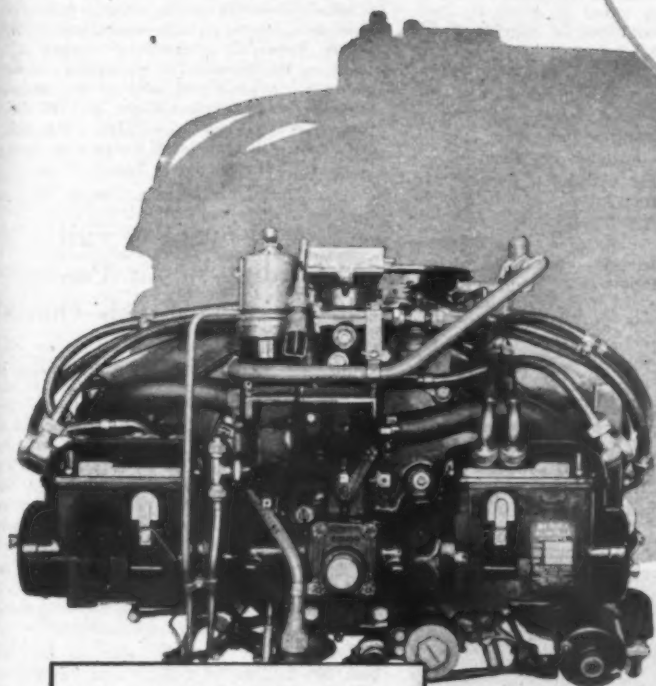


## Randolph Honored— The 'life membership'

award of the American Road Builders' Association recently was awarded to Rep. Jennings Randolph because of his 'sincere approach to all legislative matters pertaining to aviation.' Randolph (center) is shown at the 42nd annual meeting of the association in Chicago with Pat Moore (left), executive secretary of the American Association of Airport Executives, and Charles B. Donaldson, director of airports, Civil Aeronautics Administration.

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# Upsurge in Speed Bringing 500-Mile-an-Hour Long Range Air Travel Foreseen by Parrish

THE DAY of the 500-mile-an-hour comfortable cruising speeds for commercial long-range planes is not too far away, Wayne W. Parrish, editor and publisher of American Aviation Publications, declared Jan. 23.

Speaking before the Poor Richard Club in Philadelphia, Parrish said that air transportation is now on the verge of a tremendous upsurge in speed and "we will see this upsurge come to pass before this war is over."

"The next jump upwards in speed will be about 100 miles an hour to reach an over-all average cruising speed of 270 miles an hour. And before too much time elapses, we'll see this cruising speed move up to 320 miles an hour or perhaps a little higher."

Parrish said he spoke of planes powered with internal combustion engines with no reference to the gas turbine or jet propulsion engine. He said these speeds had been brought about by rapid technical developments prompted by the war.

He told of the increased speeds in connection with his recent air tour of Pacific theaters of war, and declared that while the transport flying outlook in the Pacific "is not bright on the basis of today's planes, I maintain that the outlook becomes unlimited when you reduce the time of connecting North America with Asia in 24 hours."

He declared that progress with the internal combustion engines had been satisfactory, but that "within the past year jet propulsion has upset all previous calculations and opened a vast new horizon of economical cruising speeds for both large and small planes."

"I am not an engineer or a technician," he said, "but it seems clear now that the

day of the 500-mile-an-hour comfortable cruising speeds for commercial long-range planes is not too far away.

"Prior to jet propelled planes, the scientists expressed grave doubt that the speed of sound would be passed . . . It has now been admitted by military people that we are approaching the speed of sound with planes now in production, and nobody will say that the speed of sound cannot be passed today, as perhaps it already has."

Parrish characterized arguments favoring a monopoly in international aviation on the grounds of insufficient traffic as a "most absurd and selfish argument," adding that the "very revolution in speed which is with us today is going to open unlimited new concepts of world affairs and relationships."

In an address before the Board of Trade, Toronto, Jan. 10, Parrish described the International Civil Aviation Conference in Chicago as "quite a success."

"For the first time in recorded history a large part of the world has been freely opened to the peaceful passage of scheduled airlines of participating states."

"Also for the first time in history a technical and advisory organization for world civil aviation has been created. Considering the highly restrictive and complex nature of international aviation since World War I, the progress at Chicago was truly remarkable and historic."

With respect to a world air authority which would regulate the air routes of the world and keep the development in an orderly pattern, he declared that "it is too early, in my opinion, to shackle world civil aviation with a set pattern or rigid control."



## Million-Mile Air Traveler —

Louis Leverone, right, chairman of the Illinois Aviation Conference and chairman of the aviation committee of the Illinois Post-War Planning Commission, was congratulated by W. A. Patterson, president of United Air Lines, on the occasion of his having completed his one-millionth mile of air travel. Leverone made his first flight in 1925 between Chicago and New York. The two are shown with a model of a new-type four-engined luxury liner.

## U. S. Will Stand or Fall According to Air Power, Says Dry Goods Official

The United States will stand or fall among the family of nations according to the strength of its air power, Benjamin H. Namm, first vice president of the National Retail Dry Goods Association, declared in a recent address before the National Association of Retail Secretaries, meeting in New York. Namm voiced the hope that this country will forge ahead "to unchallenged supremacy in the world of the air."

"The Four Horsemen of Air Power," he said, "are a powerful air-force, a strong air-industry, a vast air-transport system, and an enlightened air-mindedness."

Pointing out that the war so far has cost 300 billions of dollars and more than a half million American casualties, he said the United States must in the future maintain an all-powerful air force.

"There can, however, be no such thing as a mighty air force in this country unless we first foster and maintain a strong air industry," he declared. "This will call for, among other things, government-fostered competition among aircraft manufacturers."

In the future, air express will help solve the problem of distribution for farmers, Namm predicted. International air trade will be important, he added, pointing especially to the potential markets of South America.

"There can be no permanent military peace in a world of international economic conflict," he said. "International trade is not a 'one-way' street. As we develop markets for our products, we must also develop products for our markets."

The magnificent performance of the nation's airlines has stimulated air-mindedness, he said.



## Ready for First AMEX-ATC Flight —

An American Export Airlines crew is shown in New York just before departing for Africa in a C-54 Stymaster on the first AMEX trip under contract with the Air Transport Command. Left to right—F. P. 'Pat' Stout, assistant chief flight engineer; Capt. W. A. 'Willie' Fariss, first officer; Capt. Roger G. Folwell, assistant chief pilot for the airline, who was in command; Capt. Otto B. Whitmore, extra pilot; Felix J. Martin, extra flight engineer; William T. Kennedy, navigator; and William Stempel, radio officer.



# 1st Wartime Meeting Of Radio Technical Commission Is Held

Subjects ranging from future airways problems, and plans to improve air traffic control, to marker light guidance for airplane landings and design requirements necessitated by the use of unshielded wiring, were discussed at the first wartime general meeting of the Radio Technical Commission for Aeronautics recently held in Washington.

Charles I. Stanton, Deputy Administrator of the Civil Aeronautics Administration, warned that the exchange of many thousands of daily messages concerning weather, flight movements, special messages and emergency procedures will cause a jamming of radio frequencies unless as many as possible are transmitted by cable and other land lines. He added that further jamming of air-to-ground transmission may require the assignment of separate wave lengths to military, airline, private and instructional flying.

Stanton stated that the most important problem of all is that of providing radio navigation facilities for the thousands of private pilots expected to be flying constantly within the first postwar decade; and revealed that the CAA expects to install a complete new VHF system of ranges along the Federal Airways, for which equipment may be available this spring. He also broached the problem of language difficulties which must inevitably arise from intercontinental air traffic, and expressed hope that it will be met by a code system intelligible to all nationalities.

Glen A. Gilbert, chief of the CAA Air Traffic Control Division, pointed out that future traffic control planning must be based on international as well as domestic considerations. He said that one of the most important steps that can be taken immediately, using facilities now available, is to speed up instrument approaches so that less time will intervene between successive landing aircraft, and that procedures in this regard have already been formulated and are now being studied by the CAA. He said that during the last year approximately 20,000 miles of additional teletype circuits had been placed in operation for movement messages, and approximately 4,000 additional miles of long-line interphone circuits provided for control messages. He stated that the CAA believed that the delegation of more responsibility for the avoidance of collision to the individual pilot should be one of the basic concepts in planning air traffic control, and suggested a collision warning device for installation in aircraft as the most important instrument to meet the needs of future air traffic.

On the more technical side, H. J. Cory Pearson and Arthur J. Sweet presented proposals that marker light guidance be used in preference to radio guidance for landings as contact is approached whenever visibility exceeds 500 feet by day or 230 feet by night, and stated that it is adequate for all portions of the landing operation where absence of daylight, light, or moderate traffic, and one-half mile visibility prevail.

## 'Air Lunch' Gives Lift

Army fliers are adding 5,000 ft. to altitudes through use of a four-ounce package of fudge, gum, chocolate drops, gum drops, fondant creams, licorice drops, and chocolate-coated peanuts. All men on missions of three hours or more now receive the new "air crew lunch," which supplies a quick release of energy. The package can be opened with one heavily mittened hand. The new ration also has these qualities: it will keep "for years" without deteriorating; can withstand 160 degrees above and 66 degrees below temperature, and up to 90 per cent humidity.

## Gen. V. E. Bertrandias Named Chief of Maintenance, ATSC

Brig. Gen. Victor E. Bertrandias has been named Chief of Maintenance, Air Technical Service Command, and will be responsible for the world-wide main-



Bertrandias

tenance and overhaul operations that keep AAF air fleets in action. He will be stationed at Wright Field.

Gen. Bertrandias has just returned from 28 months in the Southwest Pacific, where he served as deputy commander to Lt. Gen. George C. Kenney in the Far East Air Service Command. He supervised the construction of four large maintenance bases there.

## Major Howard H. Adams Promoted on West Coast

Promotion of Howard H. Adams from the rank of Major to Lieutenant Colonel has been announced by Brigadier General Donald F. Stace, commanding the Western district of the Air Technical Service Command. Since August 25, 1943, Colonel Adams has served as public relations officer of ATSC's Western District, in which capacity he directs District public relations activities in the seven states of California, Washington, Oregon, Nevada, Utah, Idaho and Arizona.



Adams

## More 'Double Threat' Pilots

The Army Air Forces will give glider pilot training after February 15 only to officers who have their airplane pilot's wings and are proficient in flying two-engine planes, the War Department announced January 15.

## Congress Organized; Will Settle Down To Committee Work Now

With organization details largely out of the way, Congress was slated to get down to serious committee work during the next few weeks.

The Senate announced the new committee line-ups Jan. 10 and composition of some of the important sub-committees was to be decided upon sometime before Feb. 1. The House, as this was written, had not yet officially announced its new committee assignments although party caucuses had been held and most of the vacancies had been tentatively filled.

Composition of Senate committees of the 79th Congress which will deal with aviation directly or indirectly are as follows:

**Commerce:** Bailey (chairman), Overton, Bilbo, Maloney, Radcliffe, Pepper, Mead, O'Daniel, McCarran, Chandler, McClellan, Magnuson, Johnson (Calif.), Vandenberg, Brewster, Burton, Wiley, Robertson, Cordell and Brooks.

**Appropriations:** Glass (chairman), McKellar, Hayden, Thomas (Okla.), Tydings, Russell, McCarran, Overton, Bankhead, O'Mahoney, Truman, Green, Maloney, Chavez, Mead, Maybank, Bridges, White, Gurney, Brooks, Reed, Burton, Ball, Willis and Ferguson.

**Foreign Relations:** Connally (chairman), George, Wagner, Thomas (Utah), Murray, Pepper, Green, Barkley, Guffey, Glass, Tunnell, Hatch, Hill, Lucas, Johnson (Cal.), Capper, La Follette, Vandenberg, White, Shipstead, Austin, Ferguson and Donnell.

**Interstate Commerce:** Wheeler (chairman), Barkley, Johnson (Colo.), Stewart, Tunnell, McFarland, Hoey, Johnston (S. C.), Myers, McMahon, White, Austin, Shipstead, Tobey, Reed, Gurney, Hawkes, Moore and Capehart.

**Military Affairs:** Thomas of Utah (Chairman), Johnson (Colo.), Hill, Downey, Chandler, Kilgore, Murray, O'Mahoney, Wagner, Stewart, Austin, Bridges, Gurney, Revercomb, Wilson, Thomas (Ida.) and Burton.

**Naval Affairs:** Walsh (chairman), Tydings, Russell, Byrd, Gerry, Andrews, Ellender, McClellan, Eastland, Magnuson, Myers, Johnson (Cal.), Tobey, Willis, Brooks, Brewster, Robertson and Saltonstall.

**Rules:** Byrd (chairman), McKellar, Andrews, Lucas, Bankhead, Maybank, Gerry, Bilbo, Vandenberg, White, Wiley, Shipstead and Bushfield.

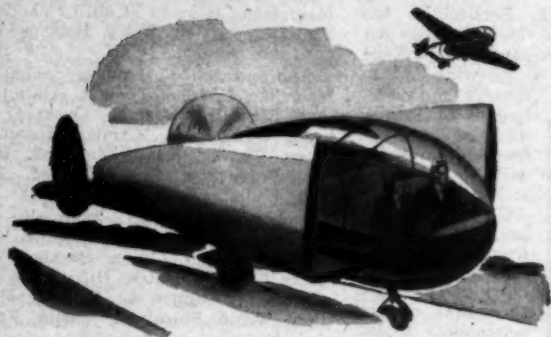
## Two Join ATA Press Staff

Russell Gerould, formerly secretary to Governor Saltonstall of Massachusetts, now a U. S. Senator, and Elmer P. Thompson, Jr., formerly automobile and aviation editor of the New York Evening Post, have been appointed to the publicity staff of the Air Transport Association. They will work out of the ATA headquarters in Washington, D. C., under Perley Boone, director of press for the association. Gerould was at one time Washington correspondent for the Boston Herald, and Thompson is a former editor of Travelers magazine.

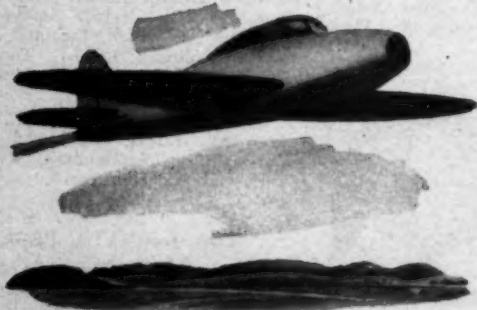
# What kind of airplane will you fly?



**1** Roadable aircraft would be handy. With wings folded they could be kept in garages, driven to airports. The lighter but more powerful engines that Standard of California's great high-octane gasoline will make possible, would be ideal for these double-duty ships of the future.



**2** You'll probably wait a little longer for fast, easy-to-fly jet-propelled aircraft. But Standard has already made special fuel for military models; and when commercial versions go aloft, Standard scientists will have an improved fuel to make the most of jet economy and performance.



**3** Plenty of level-headed people are starry-eyed over helicopters. These planes will be even better in a few years. And when civilian models *do* appear, there'll be a Standard Aviation Gasoline exactly right for their motors. War has taught us much about "tailoring" fuels to engines.



**4** But your *first* post-war plane will look more like this. It probably won't be built for 100-octane fuel, but it *will* have lots more power and endurance, thanks to the great new Standard Aviation Gasoline that wartime research has perfected now—for the aircraft of tomorrow.

**STANDARD OF CALIFORNIA**



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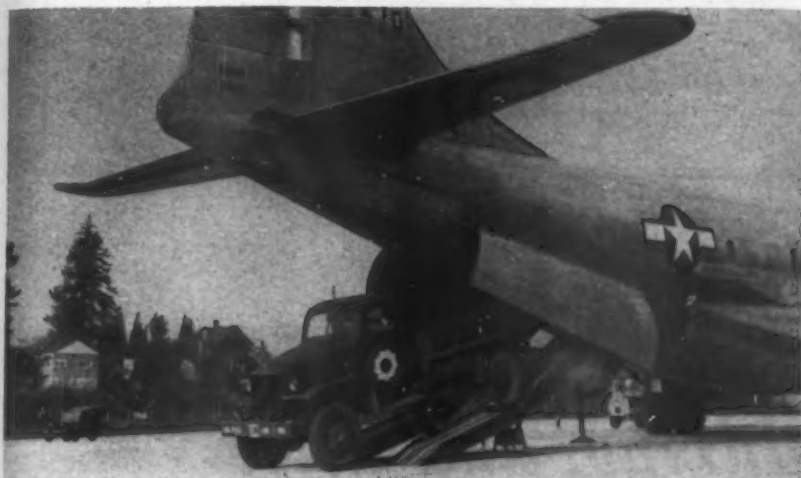
# Speed, Range, Payload of C-97 Greatest in Army Transport

THE BOEING C-97, transport version of the B-29 Superfortress, which was exhibited at Washington National Airport Jan. 11 after a record-making flight from Seattle, will carry over 100 fully equipped troops.

The C-97 made the transcontinental flight in six hours, three minutes and 50

seconds, covering the 2,323 miles at an average speed of 383 mph.

seconds, covering the 2,323 miles at an average speed of 383 mph.



**No Time Lost In Loading**—two fully loaded ton and one-half Army trucks can be driven directly aboard the Boeing C-97 through huge bomb bay-like doors. A loading ramp lets down from within the plane to form a 24 degree incline. No outside support is needed for loads of 2,500 pounds or less, while an hydraulic tail jack is used for greater loads. After loading, the ramp is retracted from within by an electric cargo hoist.

seconds, covering the 2,323 miles at an average speed of 383 mph.

Military prototype of the recently announced postwar Stratocruiser, the C-97 not only exceeds all existing Army transports in speed, range, payload and size, but in addition introduces many unusual cargo loading, cargo handling and cabin pressurization features.

The Seattle-to-Washington flight was made three months to the day after the plane's first test flight.

An altitude of 30,000 feet was attained 54 minutes after take-off, and maintained for most of the flight. The huge, double deck plane took off at about 120,000 lbs., carrying a 20,000-pound payload in addition to eight AAF and Boeing observers and its crew of five. Approximately 1,000 gallons fuel reserve remained in its tanks at the end of the flight.

One of the most unusual features of the new transport is a pair of huge loading doors resembling bomb bay doors which open under the fuselage just aft of the point where the lower deck merges into the upper or main cargo deck, and a drive-up ramp which lets down from within. The ramp is self-contained in the plane and is retracted by an electrically powered cargo hoist. The doors provide a trapezoidal opening better than 9 feet wide at the big end, 6 feet at the small end, and 14 feet long. The ramp forms a 24-degree angle with the ground and a

push button control. A hydraulic jack which fits under the tail is provided for use when ramp loads are to exceed 2,500 pounds.

The lower deck, comprising the bottom loop of the inverted "figure eight" fuselage, provides two additional cargo compartments—one forward and one aft of the wing. Light cargo is loaded directly into these compartments through truck-height side hatches; while trap doors are provided in the upper deck to permit use of the hoist in stowing heavy cargo in the lower compartments.

The cargo hoist track further extends back over the main loading doors, so that with the ramp in retracted position, a truck can be backed under it, or loads can be picked up direct from the ground. The latest developments in cargo tie-down equipment, which render obsolete former systems of ropes and nets, are included. One method employs four large pallets which are pre-loaded on the ground with the cargo made fast, and then lifted into the ship and stowed as a unit.

As a troop transport, the C-97 will carry over 100 fully equipped troops, all seated, in addition to its crew of five.

The entire fuselage is pressurized to maintain an interior pressure not exceeding 8,000 feet; and an unique system of perforated rubber flanges has been devised so that inside pressure is utilized

to seal all doors and hatches despite the fact that they open outward.

The current C-97 prototype is powered by four 2,200 horsepower Wright Cyclone R-3350 engines—the same power plants used in the B-29—driving four bladed Hamilton Standard propellers.

## Chas. (Les) Morris To Test Fly New Bendix Helicopter

Charles L. (Les) Morris, who as engineering test pilot with Igor I. Sikorsky since 1941 amassed a record number of hours in helicopter test flying, has joined Bendix Helicopter, Inc., and will aid in the development of helicopters of "new and radical design," according to Vincent Bendix, president.



Morris

Morris will be director of field operations for the Bendix Helicopter organization. This company has revealed that advanced engineering covering several years has been completed on a new type four-place helicopter equipped with counter-rotating rotors and incorporating "new and exclusive control and stability characteristics."

Morris' appointment is the latest step in the expansion of the Bendix organization to meet engineering schedules and to prepare for the first test flights. He will have supervision of test flying, flight deliveries, field servicing and allied activities. As a pilot-engineer he is working closely with the engineering department on practical aspects of the Bendix helicopter designs.

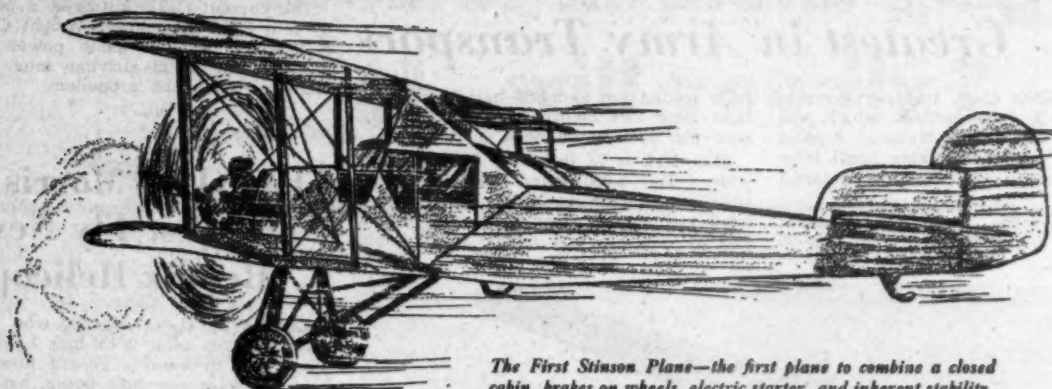
The outstanding features of the Bendix helicopter are described as simplicity of operation and control, requiring only two levers; automatic autorotation; reduction of noise and vibration by the elimination of cyclical pitch change.

Morris made a cross country helicopter flight of 761 miles from Bridgeport, Conn., to Wright Field, Dayton, Ohio, in 1942 to deliver the XR-4 to the AAF.



**Four-Place "Sedan"**—the new Bendix helicopter embodying many new features will be developed by Charles L. (Les) Morris, pioneer helicopter pilot-engineer.





*The First Stinson Plane—the first plane to combine a closed cabin, brakes on wheels, electric starter, and inherent stability.*

## *Stinson “firsts” before, during, and after*

**T**HE NAME “STINSON” has been associated with personal plane aviation leadership ever since that name was first given to an airplane, back in 1926.

When this 1926 Stinson took to the air, it carried aloft an impressive number of “firsts.”

### **DESIGN “FIRSTS”**

Stinson was the first plane to combine the following features:

- An enclosed cabin
- The safety afforded by brakes on landing wheels
- The convenience of an electric starter
- The comfort of a cabin heater

### **PREWAR PERFORMANCE “FIRSTS”**

During the past 19 years Stinson has piled up an impressive number of performance “firsts” in the fields of commercial and personal flying:

- A Stinson plane carried the first air mail in China
- It carried the first government mail in Mexico and in the Philippines
- Made the first flight from Detroit to Tokyo, and from New York to Bermuda
- Inaugurated the world’s first air-mail pick-up service
- First explored the Greenland route to Europe, the present-day route of the North Atlantic Air Ferry.



*Stinson “Flying Jeeps” serve the armed forces as flying ambulances, observation and liaison planes, under the toughest flying conditions.*

### **STINSON “FIRSTS” DURING THE WAR**

Stinson’s main wartime job has been the manufacture of liaison and training planes for our fighting forces—the Stinson Sentinel, or “Flying Jeep,” the Stinson Vigilant L-1, and the Stinson Reliant AT-19.

A Stinson Sentinel, hopping from the deck of a carrier, was the first American plane to land on Jap-infested Pelelieu Island, while U. S. Marines were slugging it out for the beachhead . . . only one typical instance of many similar occurrences when Stinson planes took part in invasions.

"Out in front" of the front, these sturdy little Stinson "Flying Jeeps" are serving as the "eyes" of the armed forces, as flying ambulances, and on important liaison duty.

The Stinson Voyager is the No. 1 plane of the Civil Air Patrol. It has the distinction of carrying out 65 per cent of the Patrol's wartime operations, which



The Stinson "Flying Jeep"—wartime successor to the peacetime Voyager—has demonstrated its stamina and utility as the No. 1 liaison plane of the Army, Navy, and Marine Corps all over the world.

have included the sinking of a number of submarines and the saving of hundreds of lives.

The Stinson Reliant AT-19 has been widely used as a navigational trainer by the British. And almost every airline in the United States uses Stinson planes to train and check their pilots.

#### THE STINSON VOYAGER 125 . . . the No. 1 Plane for Postwar Personal Flying

The first postwar personal plane designed by Stinson—the Voyager 125—combines the *safety* and *reliability* of the prewar Voyagers with the *toughness* and *utility* of the Stinson "Flying Jeep."

Here are some of the high lights of this quality personal plane—

- |  |   |
|--|---|
| Carries three passengers in addition to pilot. | 545-ft. take-off run; 265-ft. landing roll—with flaps down. |
| Maximum speed of 123 m.p.h. at sea level.      | Powered by 125 h.p. engine.                                 |
| Range of 470 miles without refueling.          | Cruising speed of 112 m.p.h. at 83 per cent power.          |
| Service ceiling 14,000 ft.                     | Rate of climb—750 ft. per minute at sea level.              |

**Parts for Stinson Planes.** We are now making a full line of parts for the thousands of Stinson planes now in service. Order spare parts for your Stinson from your local Stinson distributor or direct from the factory.

# Stinson

## The Aircraft Standard of the World

Division of Consolidated Vultee Aircraft Corporation, Wayne, Michigan

*The Stinson Voyager 125 is the forerunner of a distinguished line of planes for personal flying that Stinson will make as soon as war conditions permit.*

*We welcome inquiries about the Voyager 125 and about Stinson's post-war plans. Write to Private Sales Director, Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Michigan.*



# CAA Orders Equipment for Ten New Instrument Landing Systems

## VHF is Being Extended From Chicago Through Denver to Los Angeles

THE Civil Aeronautics Administration has ordered equipment for 10 additional instrument landing systems and the installations will be completed as soon as the equipment becomes available, Thomas B. Bourne, director of Federal Airways, CAA, has disclosed in a memorandum to the Radio Technical Commission for Aeronautics and the industry.

Bourne also reported that conversion of the existing radio range system to VHF aural type is being extended west from Chicago through Denver to Los Angeles. The next routes to be implemented with VHF ranges are the Atlanta-Boston and San Diego-Bellingham airways, including the Los Angeles-San Francisco segment.

The memorandum said that field surveys for the 10 instrument landing systems have been completed and, as equipment becomes available, will be installed at the Seattle-Tacoma airport, Seattle; Moon Township Airport, Pittsburgh; Moisant Field, New Orleans; and the municipal airports at Denver, St. Louis, Salt Lake City, Minneapolis, Omaha, Albuquerque, and Ft. Worth.

Funds for the establishment of 40 additional instrument landing systems were included in CAA's 1946 budget. Field surveys for these systems are proceeding in the order of priority set up at the Air Transport Association meeting in St. Louis last May.

"We intend to have surveys completed and plans and specifications prepared in order that construction can be initiated immediately after July 1, 1945, which is the date funds would become available," Bourne wrote. "The priority list has taken into account those points, now totaling 49, at which CAA is now establishing instrument landing systems for the War Department."

### Used in Eight Cities

Instrument landing systems have been in operation for three years on the municipal airports at Washington, D. C., New York, Atlanta, Chicago, Cleveland, Kansas City, Los Angeles, and Oakland, Calif.

With respect to the VHF radio ranges, Bourne said field surveys have been made, construction materials are being assembled, and the ranges west from Chicago through Denver to Los Angeles have been scheduled for commissioning by June 30, 1945.

He said a range at Mattawan, N. J., which will serve both the Chicago-New York and Atlanta-Boston routes had been completed, and a range at Washington, D. C., was nearing completion. Sites have been selected for construction at Atlanta, Boston, Los Angeles and Seattle.

Erection of towers and buildings for the remaining ranges on these routes is scheduled to begin this month, and installation of radio equipment is slated to begin next July 1. Eight VHF radio ranges were originally set up by CAA

on a trial basis on the Chicago-New York airway. Their operation was stopped at the beginning of the war, but operations were scheduled for resumption this month.

Bourne said that as rapidly as equipment is delivered, the following routes are scheduled to receive VHF ranges:

Houston-Memphis, Pittsburgh-Birmingham, Atlanta-Cincinnati, Knoxville-Norfolk, Ft. Wayne-Pittsburgh, Los Angeles-Amarillo, Amarillo-Chicago, Kansas City-St. Louis, St. Louis-Chicago, Washington-Cleveland, Los Angeles-Ft. Worth, Ft. Worth-Atlanta, Dallas-Louisville, Louisville-Cleveland, Indianapolis-Washington, St. Louis-Indianapolis, Indianapolis-Philadelphia, San Francisco-Salt Lake City, Salt Lake City-Omaha, Salt Lake City-Portland, Indianapolis-Chicago, Dayton-Goshen, South Bend-Detroit, New York-Buffalo, Albany-Boston, Pendleton-Spokane, Augusta-Savannah, North Dallas-Yakima.

### To Implement Other Routes

Bourne said that funds had been requested for implementing the following routes:

Seattle-Helena, New Orleans-St. Louis, Atlanta-Nashville, Jacksonville-Richmond, Cleveland-Albany, Jacksonville-New York Coastal, Great Falls-Lethbridge, Salt Lake-Great Falls, Los Angeles-Salt Lake City, Helena-Twin Cities, Chicago-Twin Cities, Miami-Atlanta, Denver-Kansas City, Amarillo-St. Louis.

Remainder of the existing routes on the Federal airways system will be implemented with VHF ranges as soon as funds and equipment become available, Bourne said.

## 1946 Budget Estimates for CAA Point to 30% Increase Over '45

THE 1946 budget estimates for the Civil Aeronautics Administration, transmitted to Congress by President Roosevelt, point to an increase of about 30 percent over the 1945 appropriations, exclusive of overtime pay provisions. The 1946 estimate for this agency is \$42,487,000, compared to \$32,380,255 appropriated for the fiscal year 1945. Overtime pay brought actual 1945 expenditures to \$35,781,478.

A major part of the increase is to provide for the installation of ultra high frequency radio ranges along the Federal airways and the establishment of instrument landing systems, the budget report reveals. In 1945 there was appropriated for the establishment of air-navigation facilities \$4,067,860. The new budget provides that the consolidated appropriation under this head for the fiscal year 1944 (\$3,915,000) shall be continued available until June 30, 1946, and is merged with the total appropriation under this heading in the amount of \$9,827,000. A further proviso limits to \$150,000 the amount that shall be available for landing areas.

## ATA's Personnel Committee Will Meet in Kansas City

The next meeting of the Personnel Committee of the Air Transport Association will be held the third week in March in Kansas City, with the year's second meeting scheduled for Dallas during the second week in July.

R. C. Oberdahn, Industrial Relations Director of TWA, has been named program chairman for the March meeting and efforts will be made in the meantime to obtain a representation at this meeting of all of the domestic and U. S. flag line personnel managers.

In connection with its December meeting in New York, the Personnel Committee voted to exchange information on employee turnover to the Air Transport Association which in turn would forward the information to the various member airlines every month. Importance of personnel work, as demonstrated by results obtained under various systems in use, would thereby be brought to the attention of the entire industry.

The plan for submission of such data, which is to include total number of employees, new employment and number of separations, is to be formulated by a committee headed by Oberdahn, Victor Vernon, Personnel Director of American, and E. M. Fitch of the Air Transport Association, who is secretary of the Personnel Committee.

### 833 Trips Around Globe

Flying hours of instructors at Hawthorne Field, Orangeburg, S. C., total 208,233, according to a recent tabulation. At an average of 100 mph, this total represents an aggregate of almost 21 million miles or the equivalent of 833 trips around the world at the equator. Instructor with the highest total time is Jim Willis, Lumberton, N. C., who has flown 16 years and has 6,500 hours to his credit.

The report states that by the close of 1946, it is expected that 40,308 miles of Federal airways in the U. S. and Alaska and between the continent and the territory will be in operation, an increase of 17 percent above the number of miles in operation at the close of 1944.

Transfer from Army and Navy surplus, as replacement, of not to exceed 55 aircraft to CAA is provided in the budget report.

The Budget estimate for the Civil Aeronautics Board for 1946 requirements, as submitted to Congress, totals \$1,725,000 compared with \$1,525,223 for 1945.

The increase reflects the larger workload facing the Board and provides for additional personnel to handle increasingly difficult problems in the economic regulation of the air-carrier industry, the Budget report stated. Some \$96,000 is provided for 12 airplanes to enable the Board to continue with greater effectiveness its accident investigation work, the report states.

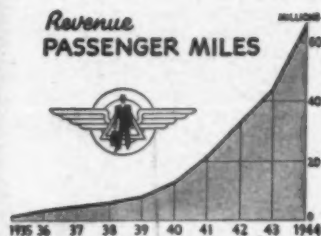




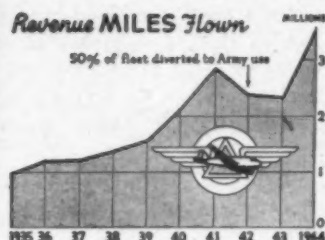
# GROWTH Through SERVICE

## To a Great New South

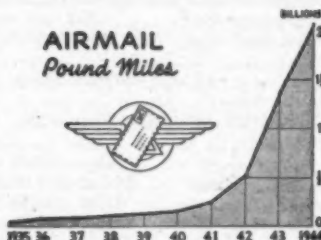
**Revenue PASSENGER MILES**



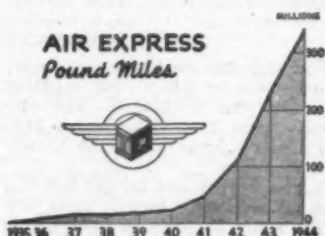
**Revenue MILES Flown**



**AIRMAIL Pound Miles**



**AIR EXPRESS Pound Miles**



As recently as 16 years ago, Delta Air Lines was pioneering—carrying the very first airline passengers across the Deep South.

By 1935 Delta was flying nearly 1,000,000 miles a year, and the few passengers of 1929 had grown to nearly 6,000.

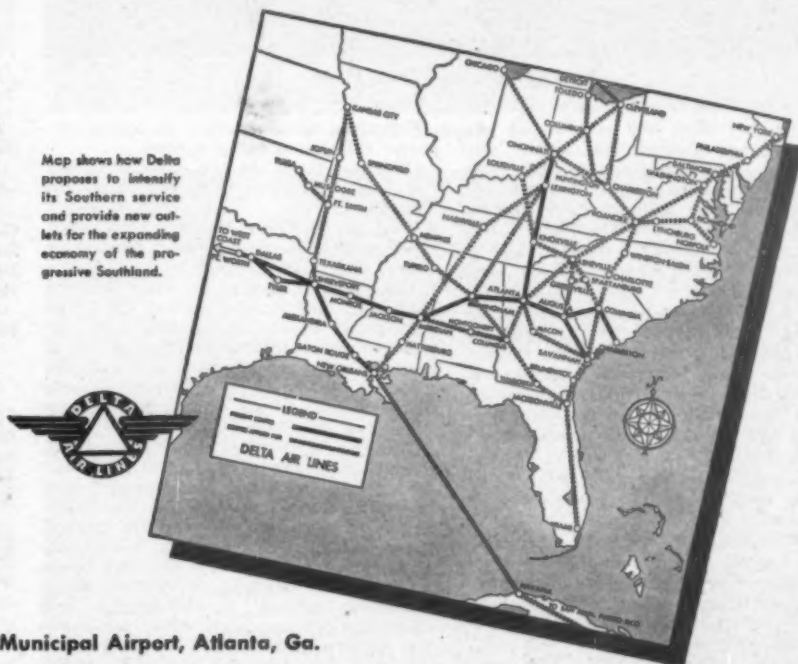
In the ten years since 1935, growth has been more substantial. Revenue mileage today is three and one-half times that in 1935. Passenger volume is 30 times greater. Passenger miles are 40 times greater.

To a degree, of course, these gains are characteristic of the times—in line with the increased use of airlines and the development of Southern industry.

At the same time Delta's progressive management, practically all of whom have been with the company since its inception, feel this uninterrupted growth reflects the wisdom of fundamental Delta policies: To provide service in keeping with traditional Southern courtesy and hospitality; to make Safety of Passengers the first consideration at all times; to plan service in keeping with the anticipated needs of the South of Tomorrow.

Delta's future plans, therefore, envision direct airline service from the South to Kansas City, Chicago, Detroit, New York, Miami, Cuba and Puerto Rico. Using larger, swifter planes, Delta would serve the South more efficiently than ever by linking it directly to these vital areas which have increasingly important economic and cultural ties with the rapidly-advancing New South.

Map shows how Delta proposes to intensify its Southern service and provide new outlets for the expanding economy of the progressive Southland.



General Offices: Atlanta Municipal Airport, Atlanta, Ga.

# DELTA Air Lines

The Airline of the South

## Couple Get Into a Little Plane And Zip 1514 Miles for \$36.15

### Private Flyers Have Few Delays On Wartime Trips

By DOROTHY AND ROBERT BLODGET

**WE DECIDED** to pioneer, to take an aerial honeymoon in a private plane, something which will become commonplace in a few years to come.

Because we were making the tour in a prewar ship and during wartime handi- caps we kept accurate account of costs, elapsed time, ground delays and clear-

cluding lunch and travel by bus, six miles to town and back.

Glens Falls, N. Y.—1 hr., 42 min. Same as Glendale except traveled by loaned station wagon.

Allentown, Pa.—56 min. Including time to obtain CAA and Fighter Command clearance to enter Vital Defense Area.

Sussex, N. J.—52 min. Including lunch and travel three miles to town and back.

Albany, N. Y.—43 min. Rest stop.

Utica, N. Y.—39 min. Including lunch and tour of field.

Rhoads, Pa.—30 min. Including check on next stop.



The Authors and Their Plane

ance details. With the records we attained we are pleased, and almost unlimited in our estimates of even how much more successful such a flight will be after the war with improved planes, regulations and airport facilities. Yet, even under present day obstacles to private flying, we did climb into our little plane and go zip!

Our honeymoon trip was made in an Aeronca KCA 65, 50 H.P. Continental, and it covered 1514 miles. From Dayton, Ohio; our home, our route took us over most of Ohio, through the Canal country of New York state, around the lower edge of the Adirondacks and up the Lake Champlain Valley to Burlington, Vt.

Our return trip was by way of Philadelphia, then across Pennsylvania and the Alleghenies, and finally back to Dayton after crossing a part of West Virginia.

The longest airport wait we found was at Allentown, Pa., where we had to get CAA and Fighter Command permission to enter a vital defense area. The time there was 56 minutes.

To show that Wesley Price in his article in the *Saturday Evening Post* on the trials and tribulations of his private plane trip did not give the experience of an average private flyer even in these times we list our airport stops, taking the longest ones first:

Glendale, W. Va.—1 hr., 45 min. In-

Columbus, Ohio—28 min. Including two phone calls announcing arrival.

Genesee, N. Y.—24 min. Including 'gas (oil) pay, sign, start, check, taxi, and take-off'.

Willoughby, Ohio—11 min. Including lunch, check map, gas, pay, sign, start, check, taxi, and take-off.

The intervals shown are exact and include the time on the ground from first contact of wheels on landing until we were actually airborne on take-off. It is probable that taxiing time averaged five minutes. It seems to us unnecessary to mention that we went through check-up 'rigmarole' at all stops. These are itemized in the two shortest stops for emphasis.

Our airspeed with a smaller ship than Mr. Price's (with less horse-power) was 68 mph. But airspeed is the first shibboleth of a plane. We use net ground speed, which we define the same way as the block-to-block time of airline operations. This includes effect of winds (whether helping or hindering) and climbing and approach time, which at the smaller fields without traffic control, means at least one complete circuit of the field at traffic level. We might have been called fortunate in the matter of winds but we did a lot of polishing on the old flying maxim, 'high east, low west'. Our over-all net ground speed averaged 73.5 mph., which was reduced by gas, lunch and rest stops to 52.58 mph., still a pretty

respectable figure for a 1500-mile trip by private travel standards.

Comparing auto costs per hour with plane costs per hour brings some interesting results. A good average mileage for autos per year is about 9000. At six cents per mile this amounts to \$540 per year. If you assume an average speed of 30 miles per hour for these 9000 miles you get a yearly operating time of 300 hours. Divide \$540 by 300 and you get \$1.80. The CAA's figure for plane maintenance is \$1.77 per hour.

For those who want to know how much it costs to go on a 1500-mile vacation trip, such as ours, here we go:

Gasoline, 96.5 gallons at average	\$28.95
Oil, 4 quarts at 30c	1.20
Hangar charges (Harrisburg and Allentown)	2.00
Cab, Dunkirk, N. Y. (two ways)	1.00
Cab, Harrisburg, Pa. (two ways)	2.00
Cab, Allentown, Pa. (one way, helpful free ride from spectator the other)	1.00

Total ..... \$36.15

The CAA's figure of \$1.77 per hour, times 20 hours, 37 minutes, comes out at \$36.46.

### Here's Postwar Balance Sheet

To make up a postwar private plane balance sheet, let's make these assumptions:

1. The customer cost for a \$2000 present equivalent plane (about equal to Price's) will be .....\$1250.00
2. The maintenance cost of this plane under the new NP classification (a guess) .....88½¢ per hour
3. Hangar cost, because of individual hangars, plus all metal, (weather-proof) plane construction tending to drive hangar costs down by making hangaring unnecessary .....\$12 per month
4. Pilot insurance costs (half those now) .....\$50

Now let's run our balance sheet, same basis as his:

For the 100-hours-per-year case:

	Ours	His	Difference
Gas, oil, upkeep ....	\$88.50	\$177.00	\$88.50
Storage .....	72.00	180.00	108.00
Depreciation .....	125.00	200.00	75.00
Hull and liability insurance .....	112.50	352.00	229.50
\$10,000 life insurance	50.00	100.00	50.00
	\$448.00	\$1009.50	\$551.00

For the 200-hours-per-year case, our figure goes to \$536.50, his to \$1186, and the difference is \$649.50. Our way the hourly total cost \$4.48 versus \$10.09 for 100 hours a year and \$2.68 versus \$5.93 for 200 hours.

If you work it out for 300 hours a year, like a car, your hourly costs are only \$2.08. Only 28 cents an hour higher than operating a car for 9000 miles.

### CAP Radio System Grows

The Pennsylvania Wing of the Civil Air Patrol will soon build its radio system to at least 50 units. The successful demonstration of the utility and need for CAP radio units at the Wing Training Encampment at the Reading Air Base is reported to have been a spur to activity throughout the Wing to procure and license radio units.

# Piper to Build One and Four Place Low Wing Models for Postwar Use

## 40 HP Skycycle One Seat Plane May Sell for \$900

**SPECIFICATIONS OF TWO** new models now undergoing development by the Piper Aircraft Corp., Lock Haven, Pa., reveal a single-place Cub Skycycle and a four-place Cub Skysedan.

They are among several experimental planes which the Piper company is developing for the postwar market. The plant is prepared to produce the J-3 Cub Trainer and J-5C Super Cruiser as soon as material is released by the War Production Board, and the company states

imately \$900 to \$1,000 and the Skysedan will sell for approximately \$2,995.

Specifications of the low-wing Skycycle are:

Power plant—Continental 40 hp engine; 10 gal. fuel capacity; wood propeller.

Indicated performance—High speed, 115 mph; cruising speed, over 90 mph; cruising range, 350 to 400 miles.

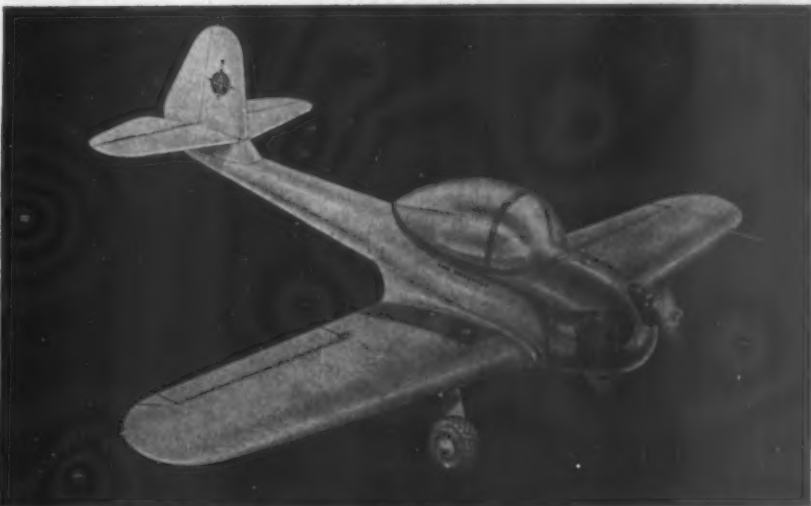
Wing—Airfoil section, modified USA 35B construction, metal spar and rib, fabric covered, full cantilever, cord 60 inches at root, span 20 ft., ailerons all metal.

Tail surfaces—Welded steel tube construction, fabric covered, full cantilever.

Fuselage—Plastic and aluminum monocoque construction; single place seating; windshield and canopy, single unit of



Skysedan



Skycycle

that in all probability these will be the only production models available in the first few months of the postwar period.

The Skycycle, if manufactured on a production basis, will retail for approx-

moulded plexiglas; length, 15 ft. 8 in.; over-all height, 60 in. in three-point position.

Landing gear—Steel tube, full cantilever construction; single leg and tail



### Dog Gone to Fly—

William E. (Ernie) Schmidt of Wilkes-Barre, Pa., Ercoupe distributor for Pennsylvania, New York and New Jersey, shown in the top picture seated in his personal plane, believes that man's dog has a right to accompany him on air trips. Since there are no pedals on the two-control plane the dog has free run of the floor. "Judy" the Sealyham terrier sitting on the wing, has 68 hours in the air. Schmidt, who was flight supervisor in the WTS program at Allentown, Pa., for a year and a half, now operates Allegheny Aeronautical Corp. at Wyoming Valley Airport, Forty Fort, near Wilkes-Barre.

### 30 Catholic Missionaries To Train at Parks College

Parks Air College has begun an intensive air training program for Catholic missionary priests of the Oblate Order through arrangements with Bishop Marc Lacroix of Hudson Bay. Thirty priests are expected to be in training by April.

In addition to learning how to fly, the missionaries will study engine maintenance, repair, instruments and meteorology in order to be self-sufficient airmen. They will receive bachelor of science degrees upon graduation from the course.

Bishop Lacroix said that aviation was a necessity in his diocese which embraces some 1,652,000 square miles and extends to the North Pole. Last winter he traveled 1,600 miles by dog sled to visit a small portion of the diocese.



## PRIVATE FLYING

skid; attachment to front spar; tires, 500 x 4; landing angle, 12 degrees; tread, 71 in.

Miscellaneous—Gross weight, under 630 pounds; empty weight, under 398 lbs.

Specifications of the low-wing Skysedan are:

Power plant—Franklin (6AL 425) 165 hp engine; 40 gal. fuel capacity; and 10 qt. oil capacity; electric starter and generator.

Indicated performance—High speed, 140 mph; cruising speed, 125 mph; landing speed, 50 mph (flaps); cruising range, 500 miles; plus half-hour reserve; useful load, 1,050 lbs.

Wing—Airfoil, USA 35B modified; span, 34-6 ft.; construction, low-wing; tapered; full cantilever; metal frame; fabric covered; two 20 gal. fuel tanks; plain ailerons; split flaps.

Fuselage—Construction, metal covered welded tubular steel structure at cabin; skin stressed cone aft of cabin.

Landing gear—Conventional main and tail gear manually retracted; main gear with oleo-air shock absorption; 700 x 6 main tires; 132 in. tread; steel and rubber spring tail wheel.

Tail surfaces—Cantilever skin-stressed construction; single vertical fin.

Miscellaneous—Over-all length, 26 ft.; over-all height, 7 ft.; gross weight, 2,300 lbs.; empty weight, 1,250 lbs.

### Don Flower, James Welsch Head Aeronautical Chamber Personal Aircraft Council

(Picture on page 1)

Don Flower has been elected chairman and James C. Welsch vice chairman of the Personal Aircraft Council, Aeronautical Chamber of Commerce of America.



Welsch

Stinson Aircraft Division of Consolidated Vultee Aircraft Corp., succeeds William A. Mara who recently resigned from Stinson to become an executive of the Bendix Aviation Corp.

They will serve as interim officials until the regular annual meeting of the Council, to be held later this year. Flower, sales manager of Cessna Aircraft Co., succeeds Joseph T. Geuting, Jr., who has become acting manager of the Council. Welsh, director of private plane sales for the

### Non-Scheduled Flying Advisory Committee

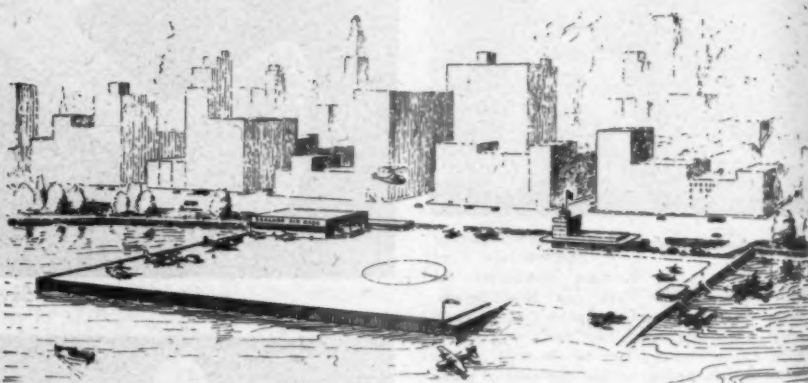
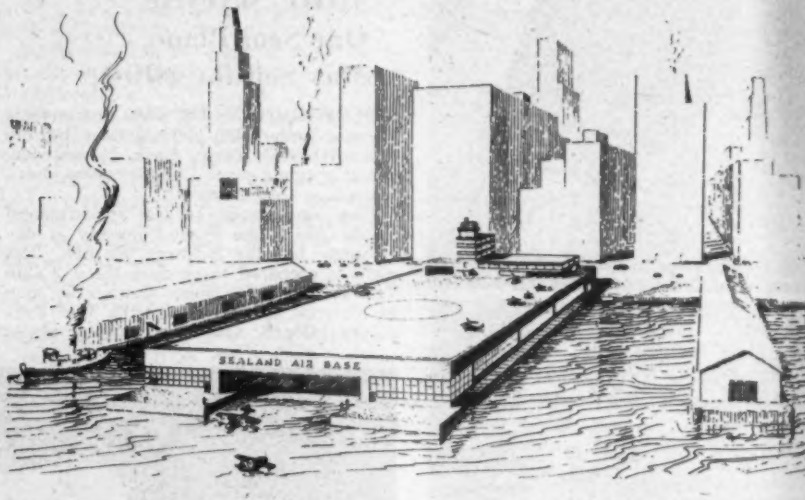
#### Will Be Chosen Soon

Work on selecting the 12 members of the newly created Advisory Committee on Non-Scheduled Flying to assist the Civil Aeronautics Administration is progressing and the personnel of the Committee is expected to be completed early in February.

The Committee, representing the aviation industry and the private flyer, will aid the CAA in planning increased post-war private flying.

Many names have been submitted as nominations and a careful scrutiny of

**Bases for Amphibians, Seaplanes, Helicopters**—Republic Aviation Corporation's P. H. Spencer, project engineer, has submitted these 'Sealand Air Base' ideas to the Aviation Section of the New York Board of Trade. Drawing at top shows how two piers on the Manhattan water front might be converted into a base for the three types of craft. Lower drawing shows how base might be built by filling in along Manhattan's East River Drive.



### N. Y. Board of Trade Adopts Resolution for Developing Lightplane Landing Areas

The directors of the New York Board of Trade, on recommendation of its Aviation Section, recently adopted a resolution promoting the creation of suitable landing areas for private flyers and small commercial aircraft within the N. Y. metropolitan area.

The resolution placed the Board of Trade on record as favoring in principle the program of the Personal Aircraft Council of the Aeronautical Chamber of Commerce and the National Aeronautic Association for the creation of adequate landing and servicing facilities in the metropolitan area. Joseph Geuting, Jr., acting manager of the Personal Aircraft Council of ACCA, recently told the City Council of New York that within 10 years, up to 30,000 personal aircraft will be used as transportation aids in the New York area.

sponsorship and background is understood being made before selections are agreed upon. One main purpose of the Committee is "to insure that regulations, to this phase of aviation (private flying) directives and policy instructions relative shall have, prior to issuance by CAA, the benefit of the industry point of view."

The Committee will consider matters pertaining to the entire field of flying outside that of scheduled transport activities, with certain Federal aviation officials participating. These include John H. Geisse, the new assistant to the administrator for the development of personal flying; Fred Lanter, director of CAA safety regulation; Jesse W. Lankford, director of the CAB safety bureau; and W. L. Jack Nelson of the CAA as executive secretary.

Seven members of the Committee will be leaders in private flying activities, one from each of the seven CAA regions, thus giving geographical coverage. The remaining five will represent aircraft manufacturers, airlines, aviation consumers, fixed base operators and state aviation officials.

Going . . .

Going . . .

*Trails of smoke and a blanket of flames accompany this Jap flying boat on its final plunge to the sea. Chalk up one more "kill" for a Navy Liberator. Official U. S. Navy Photographs.*

Gone!

Our little slant-eyed "friends" are learning, the hard way, how decidedly unhealthy it is to tangle with one of the Navy's big Consolidated Liberators. For these Liberators are not only great ships . . . they are manned by keen-eyed, straight-shooting, "hell-for-leather" American boys who like nothing better than to get a Nip flying boat, such as the one pictured here, in their sights.

It is gratifying to us here at CECO to know that CECO carburetors and fuel pumps on these newest great Liberators are doing their part in helping our fighting men beat a path to Tokyo. And we pray that the day is not too far distant when once again CECO products will be earmarked for airships rolling off peacetime assembly lines.



CARBURETORS  
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PROTEK-PLUGS

**CHANDLER-EVANS CORPORATION** SOUTH MERIDEN  
CONNECTICUT, U. S. A.

# Airline Mileage, Traffic, Revenue and Expense Statistics

The following tabulations are from preliminary reports issued by the Civil Aeronautics Board, as obtained from monthly Form 2780 reports from the domestic airlines to the CAB and from estimates when data are not available. Final and authentic tabulations from Form 2780 reports, often not available until some months after the preliminary CAB reports, are published regularly by *American Aviation Reports*, American Bldg., Washington 4, D. C. Because of space limitations, certain traffic and expense categories are not included in the following tables.

## MILEAGE AND TRAFFIC FOR NOV., 1944, AND NOV., 1943

		MILEAGE		Total Revenue Miles	Total Miles Flown	TRAFFIC				Mail Pound-Miles	Express Pound-Miles
		Scheduled Miles Flown Percentage	Number			Revenue Passenger Miles	Revenue Passenger Load Factor	Average Revenue Passenger Load			
All American	1944	86.26	117,477	118,029	124,286	.....	.....	.....	.....	10,937,175	2,281,326
	1943	86.53	89,498	89,498	91,595	.....	.....	.....	.....	6,421,893	1,503,562
American	1944	93.80	3,298,252	3,341,996	3,495,588	53,118,435	87.92	16.93	.....	2,206,631,384	1,037,583,386
	1943	97.13	2,256,432	2,258,431	2,312,044	36,291,458	88.45	16.35	.....	1,490,169,764	850,729,874
Braniff	1944	98.60	552,456	561,832	584,667	9,731,047	86.23	17.32	.....	181,482,286	82,274,086
	1943	97.53	372,756	374,197	388,658	6,251,880	92.63	16.71	.....	195,085,013	58,658,174
C. & S.	1944	94.21	345,938	346,199	349,413	5,538,455	76.23	16.00	.....	80,899,239	47,749,928
	1943	88.07	175,187	175,187	178,803	3,017,052	84.06	17.22	.....	70,362,001	29,127,865
Colonial	1944	85.03	103,262	104,296	108,874	1,483,982	67.75	14.23	.....	8,521,616	8,924,796
	1943	97.92	58,108	58,708	61,253	806,680	78.55	15.25	.....	8,792,990	5,286,090
Continental	1944	92.99	217,477	217,477	220,499	2,216,521	89.78	10.19	.....	20,944,075	9,195,864
	1943	94.59	130,482	130,482	134,059	1,256,223	86.68	9.63	.....	17,974,447	2,711,163
Delta	1944	97.45	377,100	377,100	381,162	6,901,680	88.49	18.30	.....	213,540,451	32,565,886
	1943	95.39	238,344	238,344	240,602	4,449,088	89.80	18.67	.....	136,717,086	21,501,579
Eastern	1944	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1943	99.47	1,118,418	1,118,928	1,135,945	18,508,243	89.43	17.66	.....	783,562,594	244,965,883
Hawaiian	1944	100.00	46,085	82,665	83,852	1,344,975	90.87	21.81	.....	3,715,767	94,969,997
	1943	100.00	45,240	70,280	71,203	1,132,392	92.27	22.14	.....	4,014,539	79,611,479
Inland	1944	90.13	120,263	120,263	125,317	911,355	62.97	8.19	.....	8,744,364	1,638,805
	1943	89.01	74,022	74,022	74,864	333,064	65.18	7.07	.....	6,862,457	342,713
Mid-Continent	1944	97.17	197,838	197,838	199,987	1,850,930	81.54	9.36	.....	41,602,952	7,776,015
	1943	93.92	153,880	153,880	155,629	1,187,997	60.52	7.72	.....	20,535,377	3,402,588
National	1944	97.70	388,593	389,443	395,299	4,688,276	88.46	12.04	.....	87,224,345	11,161,517
	1943	99.20	193,859	300,481	203,135	2,449,104	88.20	12.22	.....	40,249,938	9,635,785
Northeast	1944	75.71	94,542	94,542	96,455	1,111,088	53.46	11.75	.....	4,398,473	3,332,294
	1943	74.71	71,070	71,070	73,070	742,778	49.77	10.45	.....	3,915,973	2,260,687
Northwest	1944	90.47	730,988	733,047	745,734	11,169,140	79.35	15.31	.....	414,027,771	126,220,516
	1943	91.88	429,247	429,507	437,859	6,328,282	83.03	14.93	.....	365,543,070	70,464,400
P.C.A.	1944	90.33	577,436	580,363	586,445	9,302,588	78.11	16.03	.....	102,906,933	85,815,702
	1943	97.43	293,063	293,849	297,904	4,858,211	79.09	16.53	.....	86,665,138	67,221,446
TWA	1944	89.43	1,962,656	1,975,342	2,072,749	31,396,283	89.54	17.22	.....	1,812,995,614	607,506,946
	1943	97.85	1,482,175	1,484,693	1,560,116	22,239,621	90.12	16.21	.....	1,391,671,736	532,486,404
United	1944	95.30	2,709,637	2,767,882	2,835,069	40,340,111	94.46	16.87	.....	3,263,842,125	941,597,748
	1943	98.99	1,984,995	2,012,135	2,051,229	31,427,476	93.50	16.96	.....	2,271,743,629	690,335,945
Western Air	1944	93.99	345,973	348,745	360,816	5,837,919	86.53	16.74	.....	36,928,057	32,149,380
	1943	99.16	201,392	202,791	210,192	3,166,087	82.73	15.61	.....	81,544,519	37,648,574
Total <sup>1</sup>	1944	93.68	13,879,899	14,058,672	14,487,426	214,566,356	86.91	16.44	.....	9,630,874,858	3,445,868,811
	1943	97.15	9,368,768	9,436,603	9,678,250	144,535,606	88.41	16.26	.....	7,001,832,364	2,707,893,324

<sup>1</sup> The total of all carriers for the month of November 1944 reflects data for the month of October 1944. For Eastern due to non-receipt of this carrier's Form 2780 report for November 1944.

## OPERATING REVENUE AND EXPENSE FOR OCT., 1944, and OCT., 1943

		Operating Revenues					Total Operating Expense	Net Revenue from Operations
		Passenger	Mail	Express and Freight	All Other	Total		
All American	1944	\$ 52,215	\$ 1,038	\$ 692	\$ 53,945	\$ 57,723	\$ -3,778	
	1943	41,896	947	442	43,285	44,512	-1,227	
American	1944	3,032,293	627,911	267,968	66,224	3,994,396	3,095,271	
	1943	1,895,815	461,154	201,409	39,445	2,597,823	2,148,760	
Braniff	1944	505,613	53,706	17,741	9,422	586,482	472,897	
	1943	329,585	53,538	9,593	7,620	400,336	324,576	
C. & S.	1944	317,673	26,022	11,423	3,710	358,828	263,771	
	1943	182,833	23,464	9,923	2,366	218,486	196,898	
Colonial	1944	111,331	12,157	2,400	3,009	128,897	115,306	
	1943	53,791	11,782	1,014	1,245	67,832	78,375	
Continental	1944	121,885	52,477	4,322	2,042	180,726	175,133	
	1943	68,498	60,342	1,130	2,571	132,541	100,804	
Delta	1944	370,664	61,940	7,403	8,594	448,610	293,555	
	1943	222,450	43,450	7,467	2,928	276,295	211,626	
Eastern	1944	1,464,562	276,782	77,255	26,918	1,845,517	1,201,416	
	1943	1,037,080	215,744	66,706	20,239	1,339,769	956,524	
Hawaiian	1944	111,443	817	32,157	9,870	154,287	116,195	
	1943	92,129	840	28,574	1,061	122,604	106,216	
Inland	1944	40,539	45,843	507	1,239	88,128	81,565	
	1943	19,544	29,017	.....	1,065	49,626	47,567	
Mid-Continent	1944	103,683	83,509	2,030	1,705	190,927	174,697	
	1943	70,646	67,475	1,602	1,164	140,887	101,154	
National	1944	229,023	24,388	3,141	2,980	259,532	245,643	
	1943	129,156	22,907	2,033	3,369	157,465	141,105	
Northeast	1944	65,625	24,804	916	617	91,962	86,429	
	1943	48,909	24,079	1,203	936	75,127	180,506	
Northwest	1944	732,253	153,275	40,818	5,137	931,483	800,813	
	1943	349,240	136,363	21,747	15,786	523,166	396,672	
P.C.A.	1944	647,931	32,924	22,662	12,677	716,214	592,009	
	1943	308,061	26,173	22,598	7,625	364,457	325,062	
TWA	1944	1,844,344	536,266	166,106	36,931	2,583,647	1,862,251	
	1943	1,256,030	388,456	54,950	25,410	1,724,846	1,470,311	
United	1944	2,205,405	1,070,534	183,104	41,890	3,500,933	2,142,173	
	1943	1,713,620	600,092	164,629	51,774	2,530,115	1,533,030	
Western Air	1944	279,149	52,339	5,239	14,064	350,802	306,918	
	1943	163,959	25,780	10,285	8,540	208,564	207,500	
Total	1944	12,183,407	3,187,818	846,250	247,741	16,465,316	12,092,767	
	1943	7,941,346	2,333,182	605,810	183,486	10,973,824	8,573,220	



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**T**HINK of it! One-fourth shorter takeoff runs! One-third higher rate of climb! Cruising faster and farther at the most favorable altitude! All with minimum fuel consumption and engine wear. That's what Aeromatic—the one and only self-acting variable pitch propeller—means for that postwar plane of yours. And it means long glides for happy landings—with an instantaneous change of pitch for a quick pickup if you overshoot the field.

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or do. Responding to natural forces, it automatically assumes the correct pitch for peak efficiency under all flight conditions. It lets your plane and engine deliver automatically, as no other propeller can, all the performance that is built into them . . . with safe, simple, economical operation that makes flying real fun.

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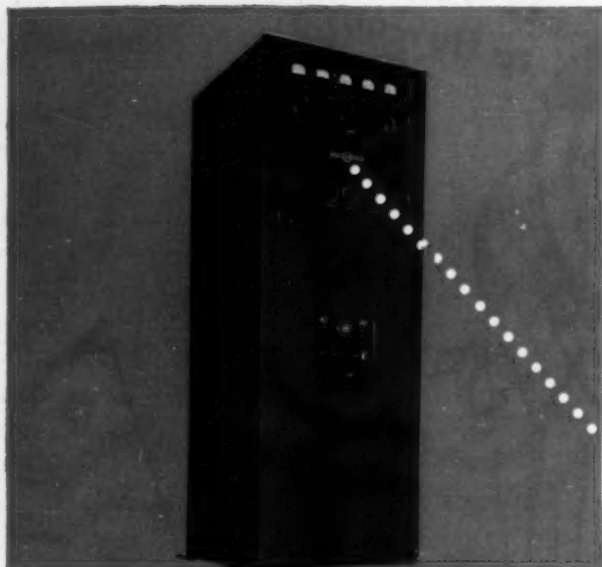
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# Announcing Two Highly Developed Collins Autotune\* Transmitters



**Collins 16F-9**—Nominal power output: 300 watts phone; 500 watts CW. Frequency range: 2 to 18 mc. Ten quick-shift frequencies.

**Collins 231D-13**—Nominal power output: 3000 watts phone; 5000 watts CW. Frequency range: 2 to 18 mc. Ten quick-shift frequencies.

IN DESIGN and construction, these transmitters reflect intense engineering endeavor and hard won experience in meeting the requirements of war. The most advanced laboratory refinements are combined with military ruggedness on a production-line basis!

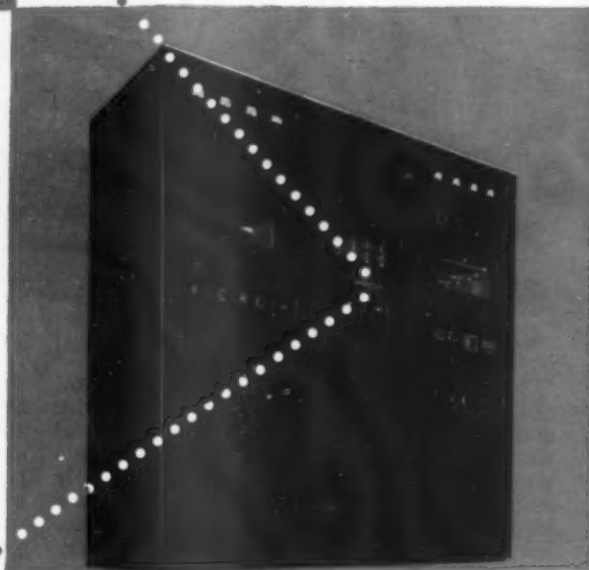
The lessons learned since Pearl Harbor have increased the already high reset accuracy and dependability of the Collins Autotune. Any one of ten frequencies is reliably, precisely available at the flip of a dial, from a remote point. The standard models are crystal controlled, and special models are available with tunable master oscillator control.

The physical size of these transmitters has been increased, and components specially Collins re-designed, to increase safety factors throughout.

The renowned Collins pi network matches into a wide variety of single wire or vertical antennas. The 231D-13 also matches into a 600 ohm balanced transmission line from 4 to 18 mc.

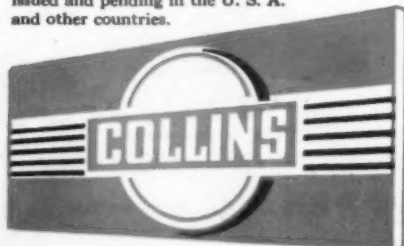
Frequency-shift keying is available, making it possible to use these transmitters in printing telegraph circuits.

We will welcome inquiries and an opportunity to make recommendations for your particular application. Collins Radio Company, Cedar Rapids, Iowa.



\*The Collins Autotune is a repositioning mechanism which quick-shifts all tuning controls simultaneously and with extreme precision to any one of a number of pre-selected frequencies. Patents issued and pending in the U. S. A. and other countries.

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# UAL Plans to Cut Fares 10 Percent; American 6½

## United Asks Additional 5% Reduction on Round- Trip, Government Rates

AMERICAN AIRLINES and United Air Lines announced last month that they propose to reduce passenger fares 6½ per cent and 10 per cent, respectively. United also plans an additional 5 per cent reduction on round-trip tickets, on tickets held by Government travelers, and to holders of volume travel plan cards. Both airlines have filed new rate schedules with the Civil Aeronautics Board.

On the basis of the \$23,356,000 American Airlines passenger business in 1943, latest available figures, the American reduction will result in an annual saving of \$1,600,000 to the flying public.

American filed the reduction in its on-line domestic passenger fares through use of a conversion table to be effective March 10. The airline announced that it would revise its international tariff to reflect a similar reduction effective the same date.

Charles A. Rheinstrom, American's vice president—traffic, said the minimum fare of \$2.50 would remain unchanged and that no fare would be less than that amount. Until new interline fares are developed with other carriers, he said, interline transportation will be sold at the combination of on-line fares except when such combinations exceed presently published interline fares in which case the latter will apply.

American has advised all carriers—including Pan American Airways and American Export Airlines—that it desires to develop new interline fares as quickly as possible, but that "until such time as new interline fares can be developed all interline fares in which American Airlines, Inc., now participates will apply from and to off-line points."

A table of reduced fares filed by American as a supplement to its new tariff, reflected these savings in fares:

Published Fare (Old)	Applicable Fare (New)
\$ 11.00 .....	\$ 10.30
25.00 .....	23.40
50.00 .....	46.75
75.00 .....	70.15
100.00 .....	93.50
150.00 .....	140.25

Following are some comparable figures on the United reductions:

The present UAL fare from New York to Chicago is \$38.85, and under the new tariffs it would be \$34.97. Present New York-Los Angeles fare is \$138.85, compared with the new \$114.97. Present fare from Washington to Chicago is \$35.75, compared with \$31.18 as proposed, while the New York-Denver fare is \$85.25, compared with \$76.73 as proposed.

"United's substantial cut in passenger fares is not designed to increase traffic as our loads are practically at capacity now," said UAL President W. A. Patterson in announcing the new tariffs. "These rate reductions will pass on to the public

the lower rates to which users of the airlines are entitled when an airline's financial position enables it to make reductions. United's decision to give, in addition to the 10 per cent reduction, 5 per cent discount on round trips, Government travel, and to holders of volume travel plan cards, is in line with airline practices before Pearl Harbor, when these types of discounts were effective."

In announcing American's proposed reduction, President A. N. Kemp said:

"The decision to make a reduction was reached by American some time ago as the result of a continuing study of our rates which the company has been conducting. We have developed many new operating methods and improved maintenance procedures which have resulted in greater efficiencies and much higher utilization of aircraft, so that in spite of the fact that the company is paying higher wages to the employees and higher prices for material and supplies than ever before, savings have been made.

"American is carrying increasing quantities of war traffic, and with the limited number of aircraft available to us during this period, the company is experiencing very high load factors with a resultant lower cost per passenger mile. We are happy to make this reduction in passenger fares and look forward to further opportunities to do so from time to time."

## PAA Organizes Local Lines In 4 Republics; Strengthens Company for TACA Threat

Pan American Airways has organized local airline companies in Panama, Nicaragua, Honduras and Costa Rica in what has been interpreted as a move to strengthen the company in the foreign field, with particular reference to the competition it now receives from TACA.

The corporate set-up of these companies is on the basis of a 40 per cent stock interest held by Pan Am, 20 per cent by the republics issuing the franchises, and 40 per cent by citizens of these respective nations.

Organization work has been completed in each case except that final approval of arrangements in Costa Rica awaits action of the Costa Rica Congress.

Pan American officials said operations of these airlines would start as soon as equipment is available. The company is looking to the Surplus War Property Administration for planes when additional transport types are declared surplus.

## PAA Cuts Flower Rates

Pan American Airways announces low cost commodity rates for orchid plant and cut flower shipments to the United States from Bermuda and points in Latin America. In some cases, rates have been reduced one-half under regular Clipper air cargo rates.

## CAB Calendar

Feb. 13—Hearing on Pacific case. (Docket 547 et al) (Tentative).

Mar. 1—Hearing on non-scheduled investigation. (Docket 1501) (Tentative).

Mar. 5—Hearing on North Central case. (Docket 415 et al) (Tentative).

Mar. 12—Hearing on National Airlines rate case. (Docket 824) (Tentative).

Mar. 15—Hearing Braniff Airways, restriction on Oklahoma cities. (Tentative).

Apr. 3—Prehearing conference, Mid-Atlantic area.

Apr. 4—Prehearing conference, Boston-New York-Atlanta-New Orleans.

Apr. 11—Prehearing conference, Kansas City-Memphis-Florida. (Washington, D. C.)

## Examiner Divides Applicants in Texas- Oklahoma Hearing

CAB Examiner Thomas L. Wrenn in a letter to applicants in the Texas-Oklahoma proceeding, set for hearing in Ft. Worth, Tex., beginning Jan. 31, has divided the applicants into three categories in order to expedite the bulky proceeding. Division is made on the following basis—Group I—through or beyond region service, and Group II—(1) north and west are and (2) central and southern area.

Applicants in Group I will be heard first in this order: American Airlines, Chicago and Southern Air Lines, Eastern Airlines, Mid-Continent Airlines, and Braniff Airways.

Applicants in Group II (1) need not appear before Feb. 5, Wrenn said. These applicants in order are: Central Airlines, E. R. Leonard, Oklahoma Airways, Parks Air College, South Central Air Transport, Skylines, New Mexico Airlines, Great Plains Airways, and Texas-New Mexico Airlines.

Applicants in Group II (2) probably will not be reached before Feb. 8. These applicants in order are: Aviation Enterprises, Aircraft Sales Co., Austin Airlines, Bowen Airways, Community Air Service, Continental Air Lines, Dixie Motor Coach, Essair, Eagle Airlines, Gulf Airlines, Hannaford Airlines, Joe T. Hinkle, Houston Airways, Wayne B. Lee, Lone Star Airlines, Lone Star Airways, Jack Neal and Son, Spartan Airlines, Texas Airlines, Texas Central Airlines, Texas Bus Lines, Union Bus Lines, West Central Airlines, Wichita Falls Air Transport.

Wrenn said the division was made to obviate the necessity of most of the applicants remaining throughout the hearing. He cautioned applicants to remain in touch with him during the proceeding to determine the date of their appearance, since it was difficult to accurately forecast the time that would be consumed by each applicant.

## CAL Requests Suspension

Continental Air Lines has filed a request with the CAB to suspend service temporarily at Garden City, Kans., on Route 43, because of airport conditions.



# International Issues Aired In AA-Amex Argument

## Practical, Moral And Legal Phases Of Case Debated

THE CIVIL Aeronautics Board must solve a legal and practical problem in reaching a decision on the application for approval of American Airlines' purchase of 51 percent of the stock of American Export Airlines for \$3,000,000.

Not only legal and practical considerations but moral as well were injected into the oral argument Jan. 18 and 19 when attorneys aired their views on the phases of international and domestic air transportation involved in the acquisition case.

The CAB examiners had recommended that the Board defer its decision in the acquisition case until it receives the documentary evidence and hears the oral argument in the North Atlantic route case (Docket 238) in which 10 applicants presented their cases for air routes across the Atlantic.

### Recalls Divestment Order

Calling the Board's attention to its divestment order in which the Board held that American Export Steamship Lines must give up its control of American Export Airlines, Leslie Craven, counsel for AMEX, said that the sale of 51 percent of AMEX stock to American Airlines represented the plan for carrying out the order. Craven said he could see no reason why AMEX's interest should be imperiled by further delay and asked the Board not to crucify AMEX by adopting the unnecessary findings in the examiners' recommendations.

Counsel for American and Amex told the Board it was the Board's responsibility to decide the acquisition case now, independently of the record and issues of the North Atlantic route case (Docket 238). Hamilton Hale, counsel for American, told the Board that American, doubting that three American carriers would be certificated in the North Atlantic, had as a matter of business judgment decided to purchase 51 percent of AMEX stock because it would give American "a leg-up on the second trans-Atlantic decision."

Henry J. Friendly, counsel for Pan American, and Paul M. Godehn, counsel for United, an intervenor, took the position that the Board could not, from a moral, legal or practical viewpoint, approve American's expenditure of \$3,000,000 for control of AMEX, holder of a temporary certificate, without losing its freedom of action in the North Atlantic case where AMEX is an applicant for a permanent certificate across the North Atlantic.

Godehn said there were two major premises and a conclusion which the Board could not escape. He said the Board could not give AMEX a permanent certificate in the pending case, that this could be done only in Docket 238—the North Atlantic case. The second premise,

he said, was that 51 percent of the capital stock of AMEX was not worth \$3,000,000 based on a temporary certificate. The conclusion is, he added, that the Board will lose its freedom of action in the North Atlantic case if it approves acquisition of control in the present case.

If the Board approved the purchase on the basis of the temporary certificate and then terminated the temporary certificate and denied AMEX a permanent certificate in the North Atlantic case, its action would approach that of a confidence game, Godehn declared.

Friendly told the Board that AMEX received its certificate in 1940 on the basis of an application for a temporary certificate which was to operate under the provisions and restrictions of the Neutrality Act. They got a temporary certificate and that's all they got, Friendly stated.

Hale countered with the statement that the Board, in its decision in the AMEX case, had clearly indicated that competition was necessary between American flag lines across the Atlantic and that it had definitely, by its own language, given AMEX more than a temporary certificate. He said American had relied on this explicit language with reference to enduring considerations when it entered into the purchase contract to buy 51 percent of control in AMEX.

"If there had been no North Atlantic case, wouldn't we be entitled to a decision in this case strictly on its merits? I maintain we're entitled to a decision on the deal we made," Hale said.

Then, referring to the motives and objectives of the opposition, Hale said there is "something going on here beneath the surface. This campaign of delay is pretty well thought out. The opposition wants

### Three Members of CAB Wear O'Coats on Bench; Quips Fly Thick, Fast

War Mobilization Director Brynes' recent order fixing room temperatures in government buildings at a maximum of 68 degrees served to bring a judicial atmosphere to a Civil Aeronautics Board hearing in Washington Jan. 19.

Although argument of counsel in the American Airlines-American Export case was of the type which generally causes temperatures to rise, the net effect did not offset the reduced heat output to the Department of Commerce building.

As a result, three of the five members of the Board—Chairman L. Welch Pogue, Oswald Ryan and Josh Lee—returned to the bench, following a morning recess, in their black overcoats. Chairman Pogue hastily explained to the hearing room spectators that the new garb must not be confused with judicial robes. Hamilton Hale, counsel for American, asked if Members Edward Warner and Harlee Branch, clad only in their business suits, were the court's counsellors.

## Stewart Faulkner Named Assistant to President Of Air Express Agency

Stewart Faulkner, who has been associated with air transportation and manufacturing for the last 10 years, has



Faulkner

been named assistant to the president of Air Express International Agency, Inc. He was formerly assistant general traffic manager and director of planning and research for Alaska Airlines, and prior to that was associated with the Material Sales group of Lockheed Aircraft Corp. and with American Airlines in New York, Chicago, and Los Angeles.

another crack at the competition theory."

Godehn, under questioning of Board Member Harlee Branch, said he felt the Board had been put on notice regarding its responsibility of taking another look at the international picture to determine whether world conditions had not changed materially from the situation which prevailed when it laid down the competition principle in the original AMEX decision. He said this could be done only by consolidating both cases for purposes of decision.

Questioned further, Godehn said that the Board might come to a decision that American airline companies, competing against each other in international trade, might not be able to survive foreign competition. He pointed to the experience of the U. S. Merchant Marine as an example. He stated that the greater national interest, in the light of facts developed in the North Atlantic case, might cause the Board to desire to revise the dicta laid down in the AMEX case with reference to the competition theory.

Louis K. Goodkind, public counsel, argued that the Board should approve the control case now. He said that the Board had ordered American Export Steamship Lines to divest its control of AMEX, that the purchase plan offered not only a method of divestiture but also a means of financing AMEX with the funds it needed. He said that even on the basis of considering the deal solely in the light of AMEX's temporary certificate, approval was justified.

"The test must be," Goodkind stated, "that approval of this acquisition will not be in the public interest. This is the best scheme that the Board could have expected under its order of divestment. The public will benefit materially by this transfer of control."

He said approval would strengthen the bid of American Flag carriers in international trade at a time when the war prevented foreign companies from advancing their interests in this direction.

Goodkind took a jab at Pan American's so-called Chosen Instrument policy, stating it was a sugar-coated phrase for eliminating competition.

# Announcing

## FOR LIGHT AIRCRAFT DESIGNERS



**1 New!**

Model 3-24B  
AUTOMATIC STEERABLE  
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TAIL WHEEL ASSEMBLY

### Scott presents NEW PRODUCT DESIGNS for Your Post-War Personal Aircraft

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STEERABLE AND  
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Model 3-28  
STEERABLE TAIL  
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**6 New!**

Direct-Reading  
LEAK-PROOF  
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**7 New!**

MASTER CYLINDERS  
and  
RUDDER-BRAKE  
PEDAL ASSEMBLY

**1** Scott Model 3-24B Automatic Steerable and Full-Swivel tail wheel assembly (6" Timken Bearing Wheel and Single-Arm Forged Steel Fork) has many new advantages. Fool proof in operation, its extra long life is now further enhanced by a needle bearing spindle, making steering and full swiveling smooth and positive. It is easily adaptable to all designs using  $1\frac{1}{4}$ " or  $1\frac{1}{2}$ " spring leaf. For static loads up to 275 pounds.

**2** The new Scott Model 3-26 Tail Wheel Assembly is of the steerable type, but with Manual lock for full swiveling, designed to fit the requirements of engineers who prefer a Manual lock, it embodies the same long life, strength, and easy operating characteristics of the automatic model 3-24B. Many of its parts are interchangeable with the 3-24B.

**3** The Scott Parking Brake Valve for locking hydraulic brakes. Light, low cost, leakproof. Of vastly superior construction, retaining line pressure indefinitely. Utilizing "O" rings, under design conditions proved in thousands of hours of military service, it is simply bridged into the line between the master cylinder and the brake—operated by switch or push-pull control on the instrument panel.

**4** Scott Single-Unit Master Cylinders incorporating pedal, or handle, and hydraulic parking lock, with sufficient capacity for those tricycle ships that do not need individual wheel brake control. Light, compact, low cost. Easy to install.

**5** The Scott Model 3-28 Steerable Tail Wheel Assembly, designed to provide durability with absolute minimum cost. No frills, but strength and quality where it's most needed. For economy trainer and similar airplanes. Thousands of assemblies of similar design are in service on flying jeeps in every theater of the war.

**6** The Scott Direct-reading Leak-proof Gasoline Gauges. Accurate, low priced, and available for nose tank, high wing, or low wing mounting.

**7** Scott Master Cylinders and Rudder-brake Pedal Assemblies available as a package. Low in price, light in weight, designed for comfort, this assembly eliminates all of the usual linkage problems in installation. For high and low pressure hydraulic brakes.

These and other Scott products, tried and proved under the severest test and field service conditions, are yours to command, NOW.

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## Mid-Continent's '26' Extended From Tulsa to New Orleans

THE Civil Aeronautics Board last fortnight extended Mid-Continent Airlines' Route 26 from Tulsa to New Orleans via the intermediate points Muskogee, Ft. Smith, Texarkana, and Shreveport, thus providing a new direct north-south service between Minneapolis-St. Paul and the Gulf.

In the same decision, the CAB granted Mid-Continent a permanent stop at Joplin on Route 26 between Kansas City and Tulsa, and authorized Continental Air Lines to provide service to Bartlesville, Okla., as an intermediate point between Tulsa and Wichita, Kans.

The applications of Delta Air Corp., and National Air Lines for routes between Kansas City and New Orleans were denied. Vice Chairman Edward Warner and CAB Member Harlee Branch filed concurring and dissenting opinions.

Mid-Continent's Tulsa-New Orleans extension contained the restriction that service between Shreveport and New Orleans should be limited to that provided by flights originating or terminating at Kansas City or points north.

In order to permit direct flights between Kansas City and New Orleans, Mid-Continent was authorized to omit stops at Tulsa and Muskogee on flights between the former points when traffic warrants such a direct operation.

Branch disagreed with the majority opinion in the finding that public convenience and necessity required a direct through service between Tulsa and New Orleans and in the selection of Mid-Continent as the carrier. He held that only the Kansas City-New Orleans route segment, connecting at Ft. Smith, Ark., with Braniff Airways route between Tulsa and Memphis, was required.

Branch contended that under the route arrangement authorized by the decision, there would be a duplication of Braniff's service between Tulsa and Ft. Smith and of Delta Air Lines' service between Shreveport and New Orleans. He held that Delta should have been authorized to perform the Kansas City-New Orleans service. This was in line with the examiner's recommendations.

Warner held that Mid-Continent's route should not have been extended beyond



### Tulsa-to-New Orleans Line—

Dotted lines show extension of Mid-Continent Airlines Rt. 26 south from Tulsa to New Orleans, via Muskogee, Ft. Smith, Texarkana, and Shreveport, and Continental Air Lines' new Bartlesville stop between Tulsa and Wichita. The Civil Aeronautics Board has made Joplin a permanent point on Mid-Continent's Rt. 26 between Kansas City and Tulsa. This route is not designated by a dotted line, however, as Mid-Continent has been operating to Joplin for some time on a wartime basis.

Shreveport because there was no need on the basis of the present record to justify creation of one-carrier service between Kansas City and New Orleans at the expense of duplication of 282 miles of Delta's route between New Orleans and Shreveport. He concurred with the majority in the need for closing the gap between Tulsa and Shreveport.

## Wichita Falls, Lubbock, Tex., 'Need Air Service'

THE NEED for air service to Wichita Falls, and Lubbock, Tex., was emphasized by witnesses for the two cities and by counsel for three airlines—two of whom appeared as applicants—in oral argument before the CAB last fortnight.

W. G. Hamilton, mayor of Wichita Falls, and A. B. Davis, secretary-manager of the Lubbock chamber of commerce, both voiced the need for inclusion on a transcontinental route in order to satisfy the cities' demands for east-west transportation.

Hamilton maintained that Wichita Falls could not maintain its present industries

nor invite new ones if air transportation were not supplied. Davis declared that of the 64 cities of a population size comparable to Lubbock, all but eight did less retail and wholesale business.

D. Franklin Kell, public counsel, recommended that the CAB withhold any action on the case until after the Texas-Oklahoma hearing in Fort Worth, Jan. 31, when some 40 local-feeder applications will be heard.

Kell maintained that out of that proceeding probably would evolve a service which would satisfy the needs of the two cities.

## Northeast Proposes Extension of New Mayflower Route

NORTHEAST AIRLINES outlined proposals for a 26-mile extension of the recently acquired Mayflower route (Route 70) to New Bedford, and thence to New York through consolidation with its present Route 27 in a hearing before Examiner Frank A. Law, Jr., last fortnight.

In that proceeding (Docket 1607 et al) Northeast seeks to consolidate Route 27, except the Bangor-Moncton-Burlington-Montreal portion, and Routes 65 and 70 into a single route to be known as Route 27.

Paul F. Collins, Northeast president, said the consolidation would not only permit an extension of service to New York, but would provide a direct New York-Portland service by by-passing Boston.

A. C. Dick, secretary of Colonial Airlines, asked that the Northeast applications be denied. This request was denied, as was another motion by Dick that the hearing be adjourned until the New England case has been decided by the CAB.

Two other interveners—Northern Airlines and New England Steamship Co.—also asked for dismissal of all or parts of the application.

Both Colonial and Northern, a non-certificated applicant, based their objections on the allegation that Northeast was attempting to accomplish by consolidation what they proposed by applications pending in the New England case (Docket 399), and that action in the present proceeding should be deferred until after a decision is announced in the New England case.

New England Steamship Co. opposed Northeast's application to carry mail over the old Mayflower route (70), which the carrier recently acquired. The route has never been certificated for mail, and was operated by Mayflower as a passenger and cargo run.

Warren H. Smith, Northeast's general traffic manager, outlined the airline's plans for New York-Boston schedule "every hour on the hour" with DC-4s. He said under questioning from Dick that he anticipated a load factor of 70 per cent on schedules of this frequency.

Dick attempted to establish earlier that Northeast was "not serious" about such schedules, since their exhibits had not shown potential traffic figures. The 70 per cent figure given by Smith was arrived at after lengthy questioning.

Dick at one point characterized the proceedings as illegal, holding that they were not within the scope of the Civil Aeronautics Act. He expressed opposition to the bulk of Northeast's exhibits, asserting that the carrier had never attempted to establish point-to-point schedules on Route 27 prior to the move for consolidation.

Counsel for Northern Airlines asserted that Northeast's proposal would "seriously affect" the service pattern of air transportation in New Hampshire and Vermont, particularly with respect to feeder operations such as those outlined by Northern.



# CARRYING THE LOAD



The Douglas A-26 Invaders are helping to carry the fight to the enemy. ¶ Beechcrafters are building complete wing assemblies, including engine nacelles and flaps, for the deadly A-26; in addition to the production of Beechcrafts for our Armed Services and those of our Allies. ¶ Beechcrafters are carrying a greater War Production load than ever before, but are proud to make this worthwhile extra contribution to early Victory. ¶ They ask the indulgence of prospective peacetime Beechcraft customers for their complete preoccupation with production for Victory. ¶ To the thousands of Beechcrafters in the Armed Services, and to all other service men and women everywhere, they send greetings and repledge themselves to do everything and anything within their power to bring Victory at the earliest possible moment.

# Beech Aircraft



CORPORATION

BEECHCRAFTS ARE DOING THEIR PART WICHITA, KANSAS, U. S. A.

## Prehearing Conference For Mississippi Valley Applicants February 26

Forty-seven applicants proposing service in the Mississippi Valley area have been notified of a prehearing conference to be held in Washington Feb. 26, for the purposes of consolidation of the applications for hearing. C. Edward Leasure, CAB chief examiner, said the conference would not necessarily limit the scope of the proceeding to the geographical area outlined nor to the 47 applicants. These issues will come up for discussion at the conference.

Applicants involved in the proceeding include National Airlines, Mercury Development Corp., Rebel Air Freight, Automatic Air Mail, Page Airways, Milky-Way Transport Corp., Burlington Transportation Co., Southwest Feeder Airlines, Frisco Transportation Co., Delta Air Corp., Continental Air Lines, Chicago and Southern Air Lines, Arkansas Motor Coaches, Transcontinental and Western Air, Mid-Continent Airlines, Ozark Air Lines, Arkansas Valley Airlines, Southair, Inc., Eagle Airlines, Kansas Aviation Co., Dixie Air Transport Co., Plaza Express Co., Ong Aircraft Corp., Dixie Airways, P-T Air Service, South Central Air Transport, Kansas Aviation Co., E. W. Wiggins Airways, Springfield Flying Service, Lank and Stovall, Coast Air Express, The Krantz Corp., S. N. Clark, Aircraft Sales Co., Aviation Enterprises, Ltd., Bowen Airways, Central Airlines, Denco Bus Lines, Dixie Motor Coach Corp., Houston Airways, Skylines, Spartan Airlines, Kansas City Airway, Tri-State Transit Co., E. R. Leonard, Parks Air Transport, and Central United States Air Lines.

### Lower Rates for Pilots

Broader protection at lower rates for aircraft pilots has been announced by G. L. Lloyd, general manager of Aero Insurance Underwriters. The Aero Age personal accident policy—a form giving aircrews 24 hour coverage—has been extended to provide weekly indemnity benefits for life; and a pilot's \$5,000 policy with \$25 weekly indemnity for life, formerly costing \$82.50, can be purchased for \$47.

### Dwyer Heads ALDA

A. W. Dwyer has been named president-secretary of the Air Line Dispatcher Association (ALDA), with headquarters at 1452 Oneida St., Denver, Colo. The Association was formerly headquartered at Los Altos, Calif.

### Named NAL 'Air Pioneer'

National Airlines has designated H. G. Williams, president of Gulf Atlantic Transportation Co., as the first member of its newly created "Air Pioneer Honorary Society" for an attempted parachute jump in 1929. Williams' chute tangled in the plane from which he had endeavored to make an exhibition jump, and he dangled in the air for 35 minutes before the pilot was able to land him by dragging him along the ground prior to the plane's landing.



We have here an exclusive story about a paratrooper . . . About a year ago we printed a yarn about the paratrooper who got such a big kick out of his first ride on an airline because although he had flown many times he had never landed—always jumped . . . Subsequently we heard the same story in 15 different places, so we decided that all paratroopers tell the same story or we had been taken for a ride . . . Anyhow, we vouch for this story—we have everything but the actual affidavits to support it . . . Here it is: Delta Air Lines last month denied a request from a paratrooper to "drop off" at his home town, Columbia, S. C., when he heard that Delta's eastbound flights would pass that city on account of weather conditions . . . He emphatically assured the reservations department that he was a fully qualified paratrooper, had his parachute with him, and had no extra baggage besides the pack usually worn in action . . . He further insisted he would sign a waiver releasing Delta from any possible claim, if they would only permit him to jump from the plane over his home . . . Reservations, finally convinced it was not a practical joke, explained that it would be impossible . . . We sympathize with the poor guy . . . Many's the time we've gnashed our teeth when passing over our home town . . . We never gnashed them hard enough to want to jump, however . . .

Airline Commentary scores again! . . . We have received a letter from Thomas M. Lemly, assistant to General Traffic Manager Stanley Webber of Delta . . . We quote: "We would like to say thanks for your 'gripe' on telephone conversations by airline employees in your column . . . in the Dec. 1 issue. It occurred to us that you would be interested in knowing what we have done about your observation in the way of an alternative" . . . Over Stan Webber's name a special bulletin has been sent out, calling attention to the "habit of some airline people, when busy, to pick up the phone and 'machine-gun' something like this: 'Acme-Airlinesonemomentplease'—just about that fast. Nothing is more annoying than to sit with a dead telephone until your ear gets tired. It is even worse when the party on the other end forgets to come back to the phone at all." The bulletin continues: "It is suggested as an alternative that we always give the person calling an opportunity to open his mouth before putting him on 'hold'. In other words, our answer should be something like this: 'Delta Air Lines—could you hold the line one moment, please?' Then, always let the passenger say, 'Yes', 'No', 'call me back', etc., before we leave him. It takes only a moment and we keep both callers happy. We are confident that they will understand and feel much better when you finally get back to them" . . . This sounds like a fine idea—at least it will keep this party happier . . . Thanks to Delta for picking up the suggestion . . .

Our West Coast spy reports that Western Air Lines employees recently held a party to celebrate the biggest news they had heard in years—the award to WAL of the Denver-Los Angeles route . . . During the party, Captain "Penny" Penrose, a pilot with a noted sense of humor, approached Vice President "Jimmie" James, and said: "Here, Jimmie, is some equipment you can use on the new run" . . . Opening a large white box, Jimmie had four white carrier pigeons fly into his face . . . Wonder if they had the WAL Indianhead painted on their wings . . .

My, my, the tricks that pilots play on new stewardesses . . . We picked this one up from United Air Lines' publication . . . UAL Capt. S. W. Butterfield, on a trip with a fledgling stewardess, flew through some clouds of ice crystals . . . As he periodically checked conditions by the use of the landing lights, the stewardess noticed the tiny white things through which the plane was flying . . . Overcome with curiosity, she went forward to be enlightened . . . "Why," says Butterfield, "you've heard of geese going south in the fall? Well, although most people don't know it, moths do the same thing and we're right in the middle of a huge swarm of southbound moths" . . . Do you suppose she believed this? . . .

Elmer J. Faucett, managing director of Compania de Aviacion Faucett S. A., Hotel Bolivar, Lima, Peru, was in the office the other day and in the course of conversation said he could use some good U. S. A. pilots . . . So here's a good lead for a few jobs . . . Faucett has become a legendary figure in Peruvian aviation . . . He went down there many years ago and began operating a local airline service within Peru . . . He carries lots of parcel post and air freight in addition to mail and passengers . . . He's also been highly successful in building a single-engined airplane for the specialized type of transport work he does in Peru—it's the same general type of utility all-work single-engined plane that Noorduynd developed in the Norseman for Far North operations . . .

ERIC BRAMLEY

*Standard in the Aviation Industry*

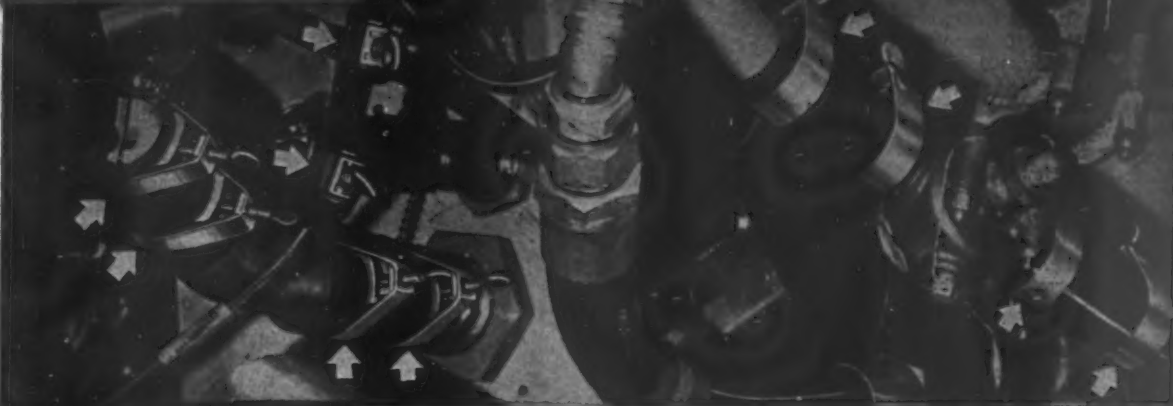
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*Type WWD Worm Drive Aviation Hose Clamp*

Wittek now offers two distinctly different aviation hose clamps complying with the requirements of specification AN-FF-C-406A.

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Bolander

Briggs

## Executive

William B. Briggs, who joined Northeast Airlines in November as assistant to the president, has been named vice president in charge of traffic and sales. He was formerly assistant to the first vice president of Eastern Air Lines.

E. Lee Talman, executive vice president of Transcontinental and Western Air, has been elected to the board of directors of the First National Bank of Kansas City.

H. Robert Bolander, Jr., secretary and general counsel of Chicago and Southern Air Lines, has assumed his new duties as vice president.

J. S. Bartles has assumed the position of general manager of Transcontinental and Western Air's Western Division, extending from New Mexico to California.

## Traffic

Wallace I. Gatten, DTM for Pennsylvania-Central Airlines at Buffalo, has been elected president of the Buffalo Passenger Association. Harry Grow of Detroit has joined the PCA traffic staff.

Max C. Henne has returned to his former position as station manager for United Air Lines at Medford, Ore., after serving since May, 1943 in United's military operations for the Air Transport Command at Anchorage, Alaska. He replaces John Y. Meyer, who has been named station manager at Monterey, Calif. Everett W. Hull, station manager at Monterey, has been transferred to the Pendleton, Ore., station. Phil L. Edwards, assistant station manager at Salt Lake City, has been appointed station manager at Long Beach, Calif.

William G. Preston, formerly space control supervisor for American Airlines at La Guardia Field, has been appointed publicity representative for American in New York City.

William R. Gillen has been named regional traffic manager of Chicago and Southern Air Lines and will supervise all cities on the new C & S route between Memphis and Detroit. J. K. Howe has been named district traffic manager at Indianapolis, effective Feb. 1. Fred Dabolt will succeed him as city traffic manager at Little Rock. J. J. Shad, Houston DTM, has been placed in charge of the cities of Memphis, Little Rock, and Shreveport. W. E. Parker, New Orleans DTM, has been placed in charge of Jackson and Greenwood. Talmage E. Hawkins has been named city traffic manager at Jackson. W. L. Scott has been named superintendent of reservations and ticket offices for C & S.

## Airline Personnel



Strawn

Prinsen



Preston

O'Connor



Bartles

Hawthorne



Whitaker

Munro

Edward A. J. Fay, formerly chief of the tariffs and service division of the Civil Aeronautics Board, has been named cargo traffic manager and chief of the tariff division of Chicago and Southern Air Lines. W. C. Burks has been named cargo development manager in charge of all cargo promotion. Eugene Ostheimer has been appointed assistant to R. L. Heininger, general traffic manager.

Fred R. Clemens, DTM for Pennsylvania-Central Airlines in Pittsburgh, has been named to the newly-organized Pitts-



Ivan Olson

Hock

burgh District Aviation Commission, a group sponsored by the city's chamber of commerce to foster aviation progress in Pittsburgh.

Ada Shurtz has been named by Western Air Lines to open new traffic offices at Ogden, Utah. She was formerly a stewardess, dispatch and flight clerk for United Air Lines in Chicago. Western also announces that James F. Montgomery of Dublin, Ireland, has been appointed traffic representative in San Francisco; Bona Roberts, pilot and former WASP, has been appointed counsellor in the Los Angeles traffic office; Opal Marie Reed is the new counsellor at Denver; Paula Quarnberg is at Rapid City, S. D.; Uletta Prinsen at Pocatello, Idaho; Elmer Gilson at Long Beach, Calif.; Dorothy Strawn at San Francisco; and Ann Gehars at Billings, Mont. Bernice Praetzel has been appointed secretary at San Francisco.

William G. Preston, formerly space control supervisor for American Airlines at La Guardia Field, has been named publicity representative for the airline at New York.

A. F. Hock, formerly national merchandising manager for the Chrysler Corp., has joined Pennsylvania-Central Airlines to fill the newly created position of general traffic manager.

Ted Gilmore has been placed in charge of Mid-Continent Airlines' new downtown ticket office in Tulsa. He will be assisted by Dana Henry. Gilmore was formerly in the contracting and electrical business in Leavenworth, Kans.

Howard B. Olson, formerly of United Air Lines, has been named acting DTM for Braniff Airways in Topeka, Kans.

James E. Hawthorne, assistant traffic manager of the Eastern Region of Transcontinental and Western Air at Pittsburgh, has been appointed assistant director of passenger sales for the airline's system.

David Munro, station manager for Pennsylvania-Central Airlines at Youngstown, O., recently was awarded a five-year service pin.

## Operations

Lt. (j.g.) Mary Ellen O'Connor, former United Air Lines' stewardess, has been designated flight nurse in charge of the Navy school for air evacuation of casualties, just established at Alameda, Calif. Three other former United stewardesses—Ensign Lydia Masserine, Gweneth Nolan, and Winifred Jennings—have been selected to attend the school.

## PAY-OFF ON A PURPOSE

Allison's objective for 30 years has been to exact the most work from the fewest ounces of metal. ★ The pay-off on such effort can be appraised in the performance of the 65,000 smooth-running

Allison engines powering Army Air Forces planes on every fighting front. It can be seen in the powerful 24-cylinder Allison "3420's". ★ Allison's rare proficiency in precision with metals will pay off, too, in the planes of peace—emphasizing those qualities which make your flying enjoyable. ★ And this same precision will endow any Allison product with the ability to serve you precisely right.

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**KEEP AMERICA STRONG  
BUY MORE WAR BONDS**

Charles Renn, former Pennsylvania-Central Airlines pilot, has been promoted to major in the Air Transport Command, where he is assigned to the Ferrying Division.

Capt. Ivan R. Olson, Continental Air Lines pilot, recently celebrated the completion of his 17,000th hour in the air, during a recent flight, by turning the controls of his plane over to his co-pilot, then going down the aisle of the plane passing out candy to all those aboard.

## Miscellaneous

W. R. Moreland has been appointed assistant to the president of Mid-Continent Airlines with headquarters in Kansas City.

Jack Adams has resigned as Western publicity director of American Airlines to join the publicity department of Paramount Pictures.

J. W. Thomas, revenue auditor for Northwest Airlines, has been appointed head of a new revenue division in the company's treasury department. Weldon Handevitdt has been named assistant auditor in the new division.

W. A. Weeks has been appointed manager of the passenger and air freight tariffs department of Eastern Air Lines. He was rate and tariff analyst for Air Cargo, Inc., prior to joining Eastern in September, 1944.

Franklin H. Griggs, Jr., has been named purchasing agent at United Air Lines' Cheyenne modification center. He formerly was assistant at the modification center to J. B. Leonard, who on Dec. 28 became superintendent of maintenance for Lineas Aereas Mexicanas, S. A., United's Mexican subsidiary.

W. D. Whitaker has been appointed assistant to the comptroller of United Air Lines in charge of analysis of reports and special studies.

W. R. Moreland has been named assistant to the president of Mid-Continent Airlines, with headquarters in Kansas City where his duties will include special assignments, public and employee relations.

A. P. Englert has been appointed assistant director of personnel for Pennsylvania-Central Airlines. He will be assistant to J. T. Rinker and will work on personnel procurement, employee records, training, and employee relations.

## Chicago & Southern Cuts

### Rates on Seafoods 40%

Chicago and Southern Air Lines announce that the rates on fresh seafoods shipped from New Orleans and the Gulf coast have been reduced as much as 40 per cent. The rate for air shipment of seafoods from New Orleans to Chicago is now 19c a pound. The former air express rate was 31½c a pound. The new rate to Memphis is 8c, and to St. Louis 15c per pound. Minimum shipments must total one dollar.

R. L. Heininger, C&S general traffic manager, said the new rates do not constitute a new service, but merely a reduction of rates on service previously offered by the airline and the Air Express division of Railway Express Agency. Pickup and delivery service is included, and there is a choice of four flights daily between New Orleans and Chicago.

## South Atlantic Case:

# 7,000 Seen Flying Southern Routes Yearly to Europe, Africa

APPLICANTS in the CAB's South Atlantic case (Docket 1171 et al.), held before Examiners William J. Madden and James Keith last fortnight, produced estimates ranging from 1400 to 7300 passengers annually traveling between the U. S. and South African and European points.

With the exception of those of Pan American Airways and U. N. Airships, the applicants generally followed the South Atlantic route pattern recommended by the CAB.

This routing ran from New York to San Juan, Trinidad, Paramaribo, Belem and Natal and thence across the Atlantic to Dakar by a northern route and Lagos by a southern leg. The northern segment continued on to Casablanca, Tangier, Madrid and Paris, while the southern leg went to Brazzaville, Johannesburg and Capetown.

## N. Y. to Azores, Then South

Pan American proposed to cut across from New York to the Azores, and thence southward to Monrovia, Leopoldville, Livingstone and Johannesburg. U. N. Airships originally proposed to use rigid airships on a route from Washington to Dakar, Capetown, Zanzibar and Calcutta, but later amended its application to more closely conform to the CAB proposals.

Rivalry between Miami and New York for designation as gateways on the proposed routes received a thorough airing during the proceedings.

Miami contended that it has a greater community of interest with African points than any other city in the U. S., and was logical gateway for a 21-state industrial and trade territory which it claimed to serve.

Arthur L. Winn, counsel for the Port of New York Authority, took issue with this stand, establishing that prior to the war all exports and imports in the South African trade had moved through New York.

The Port Authority recommended direct, one-carrier service was required via the Azores, Monrovia, Leopoldville, Johannesburg and Capetown, and that only one such route was justified. Better load factors would result from the shorter routing, witnesses maintained.

Port Authority exhibits showed an estimated 5,000 passengers annually between the U. S. and Africa, with an estimated weekly passenger potential of 288.6 passengers. The weekly minimum would be 240 passengers, the exhibits showed.

The exhibits also showed 1734.8 lbs. of available mail, and 7291.5 lbs. of freight on a weekly basis. The estimated weekly air cargo traffic potential was shown as \$14,583.

Charles W. Plass, director of overseas sales of the Scharples Corp., Philadelphia manufacturers of medical equipment, declared there was an immediate need for the route to South Africa and estimated that 3,000 round trips a year would be made between Philadelphia and South African points.

John E. Slater, executive vice-president of American Export Airlines, estimated that a total of 9,830 passengers would be carried annually over the route, with the American flag carrier hauling 60% of that traffic. He said there was not room for more than one carrier over the route.

AMEX proposed a flight every other day to South Africa, via San Juan and Natal, at a fare of 7.08c per mile using DC-6s, whose operating cost was estimated at 79c a mile. AMEX showed a loss of \$103,000 for the first year of operation.

These figures were attacked by C. Bedell Monro, president of Pennsylvania-Central Airlines, who testified that if his company had used the same basis for outlining its proposed operations, it could have showed a profit.

Monro estimated that PCA would carry 7,335 passengers between the U. S. and Africa and that the company would incur a deficit of \$1,741,000, before mail pay, during the first year of operations. He said PCA fares were based on an average rate of 5.9c per mile and that direct operating cost of the proposed DC-4 equipment was figured at 90.5c per mile.

In his attack on AMEX's cost exhibits, Monro said that on the same basis PCA could have showed a profit of approximately two million dollars operating in the same relative area.

Pan American introduced testimony indicating that approximately 5,000 persons would travel by air between New York and South Africa during the first year of operation. The company estimated that there be approximately 300,000 lbs. of air express and 175,000 lbs. of mail carried.

## PAA Counsel Objects

Henry J. Friendly, Pan American counsel, took strong objection to PCA's application, contending that the local service phases should have been heard in the Latin American hearing (Docket 525 et al.). He was joined in the objection by Edward Bierma, AMEX counsel.

First of the steamship applicants to be heard was Seas Shipping Co., whose president, Arthur L. Lewis, Jr., testified that air operations could well complement shipping services in a combined effort that should generate new commerce.

"We could carry a passenger by air to South Africa and that passenger we hope will sell 10,000 tons of cargo which will have to be carried on our steamships. We create that business by carrying that man to South Africa," Lewis said.

Both Lewis and S. J. Maddock, vice-president of the company, expressed doubts about the high traffic potentials which were set forth by the other applicants. They estimated 1400 passengers would travel between the two countries during the first year of operations and estimated air cargo at about 120,000 lbs. The company plans to operate one flight every six days.



# Towers that Talk!



American Airlines Photo

## WASHINGTON NATIONAL AIRPORT

The nation's own, at the Capital City—  
Operated by CAA.



Delta Airlines Photo

## NEW ORLEANS AIRPORT

Modern airport terminal at the Crescent  
City—an architectural gem.



American Airlines Photo

## LOUISVILLE'S BOWMAN FIELD

Pride of the Blue Grass State.



Braniff Airways Photo

## HOUSTON MUNICIPAL AIRPORT

Gateway to Mexico and Central America.



Delta Air Lines Photo

## ATLANTA MUNICIPAL AIRPORT

Serving the metropolis of Southeastern U.S.



American Airlines Photo

## LA GUARDIA AIRPORT, NEW YORK

One of the world's largest and busiest  
airports.

**Sentinels of the Sky . . .** the control towers of the nation's airports that stand guard night and day. Each safe arrival and departure at these busy terminals rests on the vigilance of their skilled staffs and the reliability of their radio equipment. Each must function with never failing dependability—in peace as in war.

Radio Receptor airport traffic control radio equipment, examples of which are to be found throughout the nation in leading civil airports, and around the world in army airfields, is noted for its rugged construction and reliability in operation.

Specify Radio Receptor radio equipment for your airport and you may rest assured that your equipment will be equal to the best.

It is not too early to plan for that postwar airport for your municipality. Let Radio Receptor aid you. Send for our Airport Radio Questionnaire—no obligation.

Highways of the Air—a review of fact and opinion on the importance of radio in aviation—sent on request to those interested in airport design, construction and operation.

COOPERATION OF ARCHITECTS, CONSULTANTS AND CONTRACTORS INVITED



# RADIO RECEPTOR CO., INC.

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NEW YORK, 11 N. Y.

Engineers and Manufacturers of Airway and Airport Radio Equipment • Communications Equipment • Industrial Electronics • Electronic Heating Equipment

SINCE 1922 IN RADIO AND ELECTRONICS

## All American Applies for 22 Air Pick-Up Routes in 10 States

THE APPLICATION of All American Aviation for 22 air pick-up routes in 10 southeastern states which would bring mail service to 425 cities and towns and air passenger service to a considerable number of them, featured the new route requests filed with the Civil Aeronautics Board during the past fortnight.

All American now serves 118 cities and towns in six middle Atlantic mountainous states and the proposed new routes are laid out in areas where a combination pick-up and passenger service might expect to serve a public need which would not be entirely practical for conventional plane operations, Halsey R. Bazley, president of All American, stated.

The 22 routes will serve 65 communities in Virginia, 113 in North Carolina, 47 in South Carolina, 66 in Tennessee, 27 in Alabama, 30 in Georgia, 49 in Kentucky, 4 in Ohio, 5 in Mississippi and 19 in West Virginia. All American now serves 37 cities in West Virginia. The proposed routes are as follows:

Roanoke, Va., to Cincinnati, Ohio, via the 24 intermediate points:

Covington—Clifton Forge, Va., White Sulphur Springs, W. Va., Ronceverte—Lewisburg, W. Va., Hinton, W. Va., Bluefield, W. Va. and Va.—Princeton, W. Va., Mullens, W. Va., Beckley, W. Va., Oak Hill—Mt. Hope, W. Va., Montgomery, W. Va., Belle, W. Va., Charleston, W. Va., Huntington, W. Va., Grayson, Ky., Olive Hill, Ky., Morehead, Ky., Flemingsburg, Ky., Maysville, Ky., Georgetown, Ohio, and Batavia, Ohio.

Knoxville, Tenn., to Cincinnati, Ohio, via the 23 intermediate points:

Clinton, Tenn., Lake City, Tenn., La Follette, Tenn., Jellico, Tenn., Williamsburg, Ky., Barbourville, Ky., Corbin, Ky., London, Ky., Somerset, Ky., Mt. Vernon, Ky., Berea, Ky., Richmond, Ky., Lancaster, Ky., Danville, Ky., Harrodsburg, Ky., Lawrenceburg, Ky., Frankfort, Ky., Lexington, Ky., Winchester, Ky., Paris, Ky., Cynthia, Ky., Falmouth, Ky., and New Richmond, Ohio.

Knoxville, Tenn., to Charlotte, N. C., via the 27 intermediate points:

Sevierville, Tenn., Dandridge, Tenn., Newport, Tenn., Hot Springs, N. C., Marshall, N. C., Canton, N. C., Waynesville, N. C., Asheville—Hendersonville—Fletcher, N. C., Rutherfordton—Forest City—Spindale, N. C., Tryon, N. C., Greer—Taylors, S. C., Greenville, S. C., Fountain Inn, S. C., Laurens—Clinton, S. C., Woodruff, S. C., Spartansburg, S. C., Gaffney, S. C., Shelby, N. C., Kings Mountain—Bessemer City, N. C., Gastonia, N. C.

Knoxville, Tenn., to Roanoke, Va., via the 17 intermediate points:

Jefferson City, Tenn., Morristown, Tenn., Rogersville, Tenn., Greenville, Tenn., Erwin, Tenn., Bristol, Va.—Bristol, Tenn.—Kingsport, Tenn.—Johnson City, Tenn., Abingdon, Va., Saltville, Va., Marion, Va., Wytheville, Va., Pulaski, Va., Radford, Va., Blacksburg—Christiansburg, Va.

Atlanta, Ga., to Columbia, S. C., via the 9 intermediate points:

Conyers—Lithonia, Ga., Winder, Ga., Athens, Ga., Elberton, Ga., Abbeville, S. C., Greenwood, S. C., Newberry, S. C., Lexington, S. C., Winston-Salem—Greensboro—High Point, N. C., to Atlanta, Ga., via the 30 intermediate points:

Mocksville, N. C., Statesville, N. C., Newton—Conover, N. C., Hickory, N. C., Lenoir, N. C., Morganton—Valdese, N. C., Marion, N. C., Swannanoa, N. C., Asheville—Hendersonville—Fletcher, N. C., Brevard, N. C., Pickets, S. C., East—Liberty, S. C., Greenville, S. C., Pelzer—Piedmont, S. C., Belton, S. C., Ander-

son, S. C., Seneca, S. C., Westminster—Wahalla, S. C., Toccoa, Ga., Cornelia, Ga., Gainesville, Ga., Buford, Ga., Lawrenceville, Ga.

Winston-Salem—Greensboro—High Point, N. C., to Charleston, S. C., via the 27 intermediate points:

Asheboro—Randleman, N. C., Thomasville, N. C., Lexington, N. C., Salisbury—Spencer, N. C., Albemarle, N. C., Concord—Kannapolis, N. C., Charlotte—Mt. Holly—Belmont, N. C., York, S. C., Rock Hill—Ft. Mill, S. C., Chester, S. C., Lancaster, S. C., Great Falls, S. C., Winnabow, S. C., Columbia, S. C., St. Matthews, S. C., Orangeburg, S. C., Bamberg—Denmark, S. C., St. George, S. C., Walterboro, S. C., Summerville, S. C.

Winston-Salem—Greensboro—High Point, N. C., to Wilmington, N. C., via the 21 intermediate points:

Gibsonville—Elon College, N. C., Burlington—Graham, N. C., Mebane, N. C., Hillsboro, N. C., Durham—Chapel Hill, N. C., Raleigh, N. C., Clayton, N. C., Selma—Smithfield, N. C., Goldsboro, N. C., La Grange, N. C., Kinston, N. C., New Bern, N. C., Morehead City—Beaufort, N. C., Maysville, N. C., Jacksonville, N. C., Burgaw, N. C.

Winston-Salem—Greensboro—High Point, N. C., to Washington, D. C., via the 16 intermediate points:

Reidsville, N. C., Danville, Va., Roxboro, N. C., South Boston, Va., Chase City, Va., Keysville, Va., Farmville, Va., Crewe, Va., Blackstone, Va., Amelia Court House, Va., Richmond, Va., Ashland, Va., Bowling Green, Va., Fredericksburg, Va., Quantico, Va., Ft. Belvoir, Va.

Winston-Salem—Greensboro—High Point, N. C., to Washington, D. C., via the 23 intermediate points:

Madison—Mayoden, N. C., Leaksville—Spray, N. C., Martinsville—Fleldale, Va., Rockymount, Va., Roanoke, Va., Bedford, Va., Lynchburg, Va., Amherst, Va., Lexington—Buena Vista, Va., Waynesboro, Va., Staunton, Va., Harrisonburg—Bridgewater, Va., Shenandoah—Elkton, Va., Charlottesville, Va., Orange, Va., Culpeper, Va., Warrenton, Va., Manassas, Va., Herndon, Va.

Charlotte, N. C., to Wilmington, N. C., via the 12 intermediate points:

Monroe, N. C., Wadesboro, N. C., Hamlet—Rockingham, N. C., Laurinburg—Maxton, N. C., St. Pauls, N. C., Lumberton, N. C., Fairmont, N. C., Chadbourn, N. C., Whiteville, N. C., Bolton, N. C.

Raleigh, N. C., to Columbia, S. C., via the 18 intermediate points:

Sanford, N. C., Lillington, N. C., Dunn—Erwin, N. C., Fayetteville, N. C., Southern Pines—Aberdeen, N. C., Raeford, N. C., Laurinburg—Maxton, N. C., McColl, S. C., Bennettsville, S. C., Florence—Darlington, S. C., Hartsville, S. C., Bishopville, S. C., Sumter, S. C., Camden, S. C.

Richmond, Va., to Raleigh, N. C., via the 13 intermediate points:

Hopewell, Va., Petersburg—Ettrick, Va., Emporia, Va., Roanoke Rapids—Weldon, N. C., Enfield, N. C., Rocky Mount, N. C., Nashville, N. C., Louisville, N. C., Henderson, N. C., Oxford, N. C., Wake Forest, N. C.

Richmond, Va., to Raleigh, N. C., via the 23 intermediate points:

West Point, Va., Williamsburg, Va., Yorktown, Va., Hampton—Phoebe—Ft. Monroe, Va., Newport News, Va., Norfolk—Portsmouth, Va., Virginia Beach, Va., Suffolk, Va., Elizabeth City, N. C., Hertford, N. C., Edenton, N. C., Plymouth, N. C., Windsor, N. C., Williamson, N. C., Washington, N. C., Greenville, N. C., Tarboro, N. C., Rocky Mount, N. C., Wilson, N. C., Zebulon, N. C.

Knoxville, Tenn., to Winston-Salem—Greensboro—High Point, N. C., via the 25 intermediate points:

Mascot, Tenn., Tazewell, Tenn., Middleboro,

Ky., Pineville, Ky., Harlan, Ky., Big Stone Gap—Appalachia, Va., Norton, Va., Whitesburg, Ky., Hazard, Ky., Pikeville, Ky., Williamsport, W. Va., Logan, W. Va., Iaeger, W. Va., Welch—Gary, W. Va., Keystone, W. Va., Bluefield, W. Va., and Va.—Princeton, W. Va., Pulaski, Va., Galax—Fries, Va., Mt. Airy, N. C., Pilot Mountain, N. C.

Knoxville, Tenn., to Evansville, Ind., via the 23 intermediate points:

Oak Ridge, Tenn., Harriman—Kingsport, Tenn., Rockwood, Tenn., Crossville, Tenn., Monterey, Tenn., Cookeville, Tenn., Sparta, Tenn., McMinnville, Tenn., Murfreesboro, Tenn., Nashville, Tenn., Springfield, Tenn., Clarksville, Tenn., Hopkinsville, Ky., Princeton, Ky., Dawson Springs, Ky., Madisonville—Erlington, Ky., Central City, Ky., Hartford—Beaver Dam, Ky., Owensboro, Ky., Henderson, Ky.

Memphis, Tenn., to Knoxville, Tenn., via the 33 intermediate points:

Collierville, Tenn., Somerville, Tenn., Brownsville, Tenn., Jackson, Tenn., Humbolt, Tenn., Trenton, Tenn., Milan, Tenn., McKenzie, Tenn., Paris, Tenn., Bruceton, Tenn., Waverly, Tenn., Dickson, Tenn., Ashland City, Tenn., Nashville, Tenn., Franklin, Tenn., Columbia, Tenn., Mt. Pleasant, Tenn., Lewisburg, Tenn., Shelbyville, Tenn., Tullahoma, Tenn., Winchester—Decherd, Tenn., Cowan—Sewanee, Tenn., South Pittsburg, Tenn.—Bridgeport, Ala., Chattanooga, Tenn., Cleveland, Tenn., Etowah, Tenn., Athens, Tenn., Sweetwater, Tenn., Lenoir City—Loudon, Tenn.

Atlanta, Ga., to Chattanooga, Tenn., via the 10 intermediate points:

Marietta, Ga., Dallas, Ga., Cartersville, Ga., Rockmart, Ga., Cedartown, Ga., Rome—Lindale, Ga., Calhoun, Ga., Dalton, Ga., Ringgold, Ga.

Atlanta, Ga., to Birmingham, Ala., via the 11 intermediate points:

Douglasville, Ga., Villa Rica, Ga., Carrollton, Ga., Bremen, Ga., Tallapoosa, Ga., Piedmont, Ala., Jacksonville, Ala., Anniston, Ala., Talladega, Ala., Pell City, Ala., Leeds, Ala.

Birmingham, Ala., to Chattanooga, Tenn., via the 12 intermediate points:

Oneonta, Ala., Gadsden—Attalla—Alabama City, Ala., Albertville—Boaz, Ala., Guntersville, Ala., Ft. Payne, Ala., Trion—Summersville, Ga., La Fayette, Ga., Chickamauga, Ga.

Memphis, Tenn., to Birmingham, Ala., via the 16 intermediate points:

Hernando, Miss., Holly Springs, Miss., Ripley, Miss., Corinth, Miss., Iuka, Miss., Tuscomb—Florence—Sheffield, Ala., Courtland, Ala., Athens, Ala., Huntsville, Ala., Decatur, Ala., Hartselle, Ala., Cullman, Ala., Jasper, Ala., Cordova, Ala.

Nashville, Tenn., to Louisville, Ky., via the 11 intermediate points:

Lebanon, Tenn., Gallatin, Tenn., Portland, Tenn., Franklin, Ky., Bowling Green, Ky., Glasgow, Ky., Horse Cave, Ky., Hodgenville, Ky., Elizabethtown, Ky., Ft. Knox, Ky., Shepherdsville, Ky.

Other applications filed during the fortnight:

### Delta Air Lines

This presently certificated carrier has filed an application with the CAB in which it proposes to serve Columbus, Ga., and Montgomery, Ala., on an alternate routing between Atlanta and Meridian, Miss.; Columbus would also be served on a new route sought from Memphis southeast to Jacksonville, via Tupelo, Miss., Birmingham, Ala., and Columbus and Valdosta, Ga. Service to Macon, Ga., was asked in an alternate routing between Atlanta and Savannah, and Delta at the same time reapplied for a route between Savannah and Jacksonville, via Brunswick, Ga. (Docket 1708)

### National Airlines

This presently certificated carrier has filed an application with the CAB proposing non-stop flights between Jacksonville and New Orleans. (Docket 1709) National previously had filed notice of the inauguration of this non-stop service with the CAB, who later is-

(Turn to page 80)

# **PARKS** **AIRCRAFT** **SALES and** **SERVICE**

## **Qualified Workmanship and Proven Materials Enable You to Take to the Air with Confidence**

★ At Parks Aircraft Sales and Service, qualified, skilled, licensed aircraft mechanics will overhaul and repair your plane so that when you again take to the air you will do so with confidence—confidence that comes with knowing your plane has been serviced by experts working with the most modern equipment and finest of materials.

Parks Aircraft Sales and Service is proud of its experienced personnel; proud, too, of the leading manufacturers of supplies, parts, and accessories it has been chosen to represent.

We solicit your inquiries on airplane and engine overhaul and repairs, and magnaflux inspection service.

Let us know your requirements of Goodyear tires and tubes, Lear Radios, Berry Brothers paint and finishes, Thurston airplane fabrics and tapes, Fahlin propellers, Ranger engine parts, Ercoupe airplane parts, and other supplies, parts, and accessories. We may be able to supply your needs now, although our warehouse stocks are not as complete as they will be just as soon as conditions permit.

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The Ercoupe, the personal plane destined to bring everyday personal flying into the daily lives of hundreds of thousands of Americans, is to be distributed in the Midwest by Parks Aircraft Sales and Service. The Ercoupe, with but a single control, a wheel, is designed for safety, ease of handling, and economy. The Ercoupe cannot spin, handles like an automobile, gives 20 to 25 miles per gallon of gasoline, and flies 65,000 miles or more before the engine need be overhauled. Write for details.





# Forty-Eight Instrument Landings an Hour

## AA Pilot Suggests Revision in Whole Approach to Problem Of Traffic Control; Cites Present 'Oversaturation'

By J. D. HENRY

American Airlines' Captain on the New York-Boston Route

AIR TRAFFIC CONTROL is of most vital interest to all. Even under the somewhat curtailed operations of today our present technic of traffic control is



Capt. Henry

hopelessly oversaturated under normal instrument conditions along many routes and at numerous terminals. This condition necessitates the cancellation of short haul flight to give room on the airway for long haul operations, or to eliminate congestion at terminals. Such a

condition is of deepest concern to both operator and passenger alike.

Experimental methods of instrument approach and holding procedure are a definite refinement over the present system; however they are similarly limited but to a lesser degree.

To make room for an appreciable increase in schedules that can be handled during instrument conditions, we must revise our whole approach to the problem of traffic control.

At LaGuardia Field during good weather the frequency of flights inbound from all directions are such that at times a score of landings are made within as many minutes. If we are to operate a reasonably uninterrupted service, we must be able to closely duplicate this number during instrument conditions. There should be little difference in time requirements between good weather approaches to land and those done on instruments.

### 4 Fundamental Factors

This will be possible by the advent of four fundamental factors: (1) multiple parallel runways, (2) radio facilities unlimited, (3) dual airways, and (4) discarding the obsolete practice of always landing into the wind. With a combination of these four fundamentals, an entirely new approach to the air traffic problem opens up.

All will agree that the first three items will be immediately available. The fourth, the question of landing other than into the wind as a common practice might be viewed with skepticism. However, in an overwhelming majority of instrument landing conditions, winds of 15 mph and less are prevalent. This wind factor, though important, could be safely handled by our present equipment and even more so by the tricycle type landing gear that has been universally adopted for the latest supertransports.

Wind factors also become diminishingly important as landing and approach speeds of the new craft increase. The drift factor

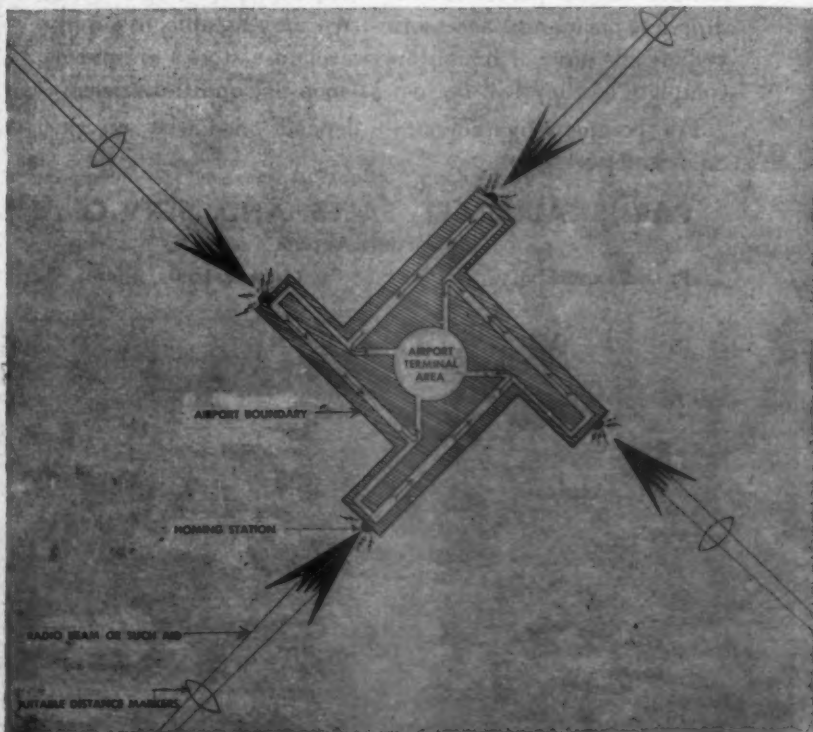
of an aircraft landing at 100 mph is only half that of one landing at 50 mph. Also the landing ground speed increase or decrease with head or tail winds, reduces in effect as plane landing speeds increase. A plane with landing airspeed of 50 mph would have an actual speed across the ground of 65 mph in a 15-mile tail wind. An increase of some 30 per cent in landing speed over still air conditions. Whereas a plane with landing airspeed of 100 mph would land at 115 mph across the ground with the same 15-mile tail wind, an increase of only 15 percent over still air conditions.

In the past, wind directions, available runways, and the location of range station and let down facilities have necessitated all inbound flights using the same channel for landing. If the range station were on the southwest side of the airport, traffic from the northeast would of necessity pass over the airport to get to the radio facility that would permit him to get down out of the overcast. In so doing he must mingle with and disrupt all traffic from all other directions, in addition to delaying traffic that was following him from the northeast. To have a smooth flow of traffic we must fly straight in to our landing without any

circling, holding or complicated time devouring procedure of any kind.

How can this be done? First of all, Air Traffic Control (Federal bureau assigned to the task) should establish the basic design of the airport itself and its radio facilities. To have a co-ordinated plan that will work it must start with the fundamental location and layout of landing runways and the location of radio aids.

Lets assume for example that LaGuardia Field were being planned today and only traffic from the northeast and southwest were to be handled. First of all we would need only one set of two parallel runways lying in a northeast-southwesterly direction. A range station and set of radio markers suitable to the approach straight in from the northeast to one of these runways would be installed. A similar but separate range station and set of markers suitable to the approach straight in from the southwest to the other of these runways. Traffic from either direction would therefore be separate and distinct and aircraft from both directions could be handled simultaneously and no more time would be consumed under instrument



Landing Straight In from All Directions

# The Motor is the Heart



# The Filter is the Lung

AS everybody knows the human heart is the control motor through which, in popular language, every drop of blood (often clogged up with waste and impurities) is brought into contact with the lungs there to be purified and recirculated through the system to energise muscles and stimulate nerves. This constant purifying of the blood-stream is essential to the healthy functioning of all parts of the body.

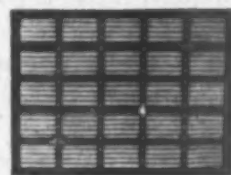
In the same way the air and oil that "feed" the heart of the aircraft—the motor or engine must be freed from impurities to ensure maximum reliable performance. Vokes Filters are the lungs which ensure clean air and clean oil being delivered where it is required. They clean *all* the air and *all* the oil all the time keeping up a sustained filtration efficiency of 99.9 per cent. of all dust particles to 0.00004 in diameter.

Vokes Air and Oil Filters are fitted to aircraft flown in all battle areas by the R.A.F., also Dominion and American Air Forces. Not only do Vokes Filters service all types of engine, radial or in line, but they are also used for gun

turret mechanism and hydraulic retractable undercarriages. Vokes Filters are of course used on test-bed equipment in the world's most famous aero-engine producing works.

American engineers have for a long time adopted Vokes Air, Oil and Fuel Filters in many forms of industry—to mention one particularly—the provision of filters for tractors operating usually in conditions where dust and sand storms are a perpetual menace. As on the battle fields where sand played such havoc with tanks and tractors, so in agriculture Vokes Filters with their easily cleanable or replaceable parts prove invaluable.

Vokes have actually produced over 3,000 models of their various filters and supply the necessary housing and ductings to secure sustained maximum filtration efficiency. Vokes are ready to produce any type of Air, Oil or Fuel Filter to any size or capacity for any industry. It will surely pay you to consult and co-operate with the firm who are original pioneers and specialists in this vitally important work.



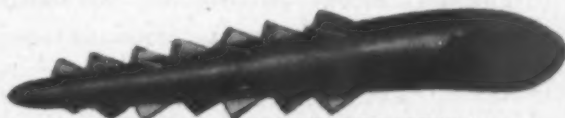
VOKES AEROVEE FILTER ELEMENT



VOKES  
HIGH PRESSURE  
OIL FILTER



VOKES OIL FILTER FOR AIRCRAFT



VOKES FLAME TRAP SILENCER FOR AIRCRAFT

**VOKES FILTRATION & SILENCING CO. INCORPORATED,**  
101, Park Avenue, New York, & **VOKES (CANADA) LTD.,**  
1123, Bay Street, Toronto, Canada.

Contractors to British and Dominion Governments.

## VOKES • LIMITED • LONDON • S.W.

DESIGNERS, PATENTEES & MANUFACTURERS OF AIR, OIL & FUEL FILTERS & SILENCERS

than under visual conditions. Both would land straight in.

With the present separation of 10 minutes along the airways, we could handle six flights from the northeast and six from the southwest each hour, using only one cruising altitude from each direction.

Our present system will accommodate at maximum about six planes each hour from any and all directions and using any number of altitudes. This figure is based on a complete procedure being required in all cases.

Therefore, by the use of the straight-in plan, as illustrated thus far we have doubled our capacity. This comparison is based on the maximum of the present system as against the absolute minimum from the straight-in plan from only two directions.

The plan of straight-in landings in all instances would make possible closer separation along the airway, say five minutes instead of 10, because the congestion at the ends of the airway would be eliminated. By the addition of controlled airspeeds by ATC under conditions of five minute separation, a safety standard comparable to a 10-minute separation with uncontrolled airspeeds would be attained.

#### Foresees Electronic Aid

Starting with a minimum of 12 flights per hour from two directions, we could handle 24 by reducing the separation to five minutes. This number of 12 aircraft approaching from a given direction each hour is about the maximum number that I can visualize until the advent of some electronic device for absolute position control.

To the flights hourly from the northeast and the 12 hourly from the southwest, we could add 12 from the southeast and 12 from the northwest, a total of 48 arrivals per hour. Each channel of traffic from any direction using its own individual runway and radio aids.

In handling traffic from any number of directions there is no crossing of traffic at any time not even on the ground after landing.

#### Traffic from 4 Directions

The illustration shows a typical airport set up for straight-in approaches geared for highly concentrated traffic from four directions. Should traffic be especially heavy from one or more directions, a portion of it could be rerouted at an outlying point so that it would feed into one of the approach channels with less traffic. Even in cases of rerouting, all traffic lands straight in and does not hold, circle, or execute a complicated procedure of any kind.

Aircraft that are properly spaced along the airway would automatically be ready to come straight in and land upon arrival because the last ship ahead had a five minute separation. Inbound traffic from other airways are of no concern to him. The necessity of a series of long drawn out instructions would be considerably reduced and many possibilities for error thereby eliminated.

The straight-in landing technic places the maintenance of separation at the terminal into the hands of a mechanical plan, rather than at the discretion of control officers.

Outbound traffic would be handled similarly to inbound traffic in that it

would take off in the direction of intended flight. Four takeoffs simultaneously could be made, except during maximum inbound traffic, at which time each takeoff would be spaced between inbound aircraft each five minutes on the given runway, and at a time when departing traffic would not intersect landing aircraft each five minutes from the right. This one point of intersection, between departing and landing craft, could easily be controlled because of the five-minute intervals. Thereby a plane could be dispatched in each of the four directions every five minutes, making 48 instrument departures and 48 instrument landings possible each and every hour.

All this will work with a stabilized ceiling and visibility at or above the minimums over the terminal and the installation of dual or two-lane airways: one inbound and one outbound lane is needed even under the present system of operation.

What happens if the weather goes below minimums or for some reason an aircraft misses an approach? Blind landing will eliminate this possibility considerably when it is a practical reality. In the meantime we must be able to handle the situation safely with a rate of 48 planes per hour in operation and using only the type of facilities in common use today.

The instant an approach is missed all takeoffs cease and inbound traffic is blocked off at the Terminal Control Boundary. The problem is then maintained at no more than the 24 inbound aircraft. This would be the number in a Terminal Control Zone extending say 90 miles in all directions, using only one altitude in each direction, and a controlled airspeed of 180 mph. Under these conditions we would have six planes spread at five-minute intervals in each direction to the boundary.

#### Continues Over Airport

The plane that missed his approach would continue over the airport and proceed from that point as a departing aircraft as if from the runway he had planned to land upon. All this he could do as standard procedure.

If the craft missing the approach were the only one in the pattern that missed and it was for reasons individual to that craft, such as landing gear would not extend, frost on the windshield etc., he could be turned around behind the traffic approaching from the direction opposite to his original course. This would be about 15 minutes from the airport, after passing the six inbound planes opposite to the direction he was originally flying. In this way one plane missing an approach does not affect the others that are in the Terminal Control Zone.

A procedure must be set up for handling four planes, one from each direction, that simultaneously miss approaches because of weather below minimums etc.

There are four points of potential collision in such a case. These four points are where the four flight paths cross when approaches are missed and more than one plane continues its flight across the airport.

How then can we obtain suitable vertical clearance at these four points? Traffic from the northeast and southwest would automatically be separated from each other by the distance between the respective runways over the field, about one

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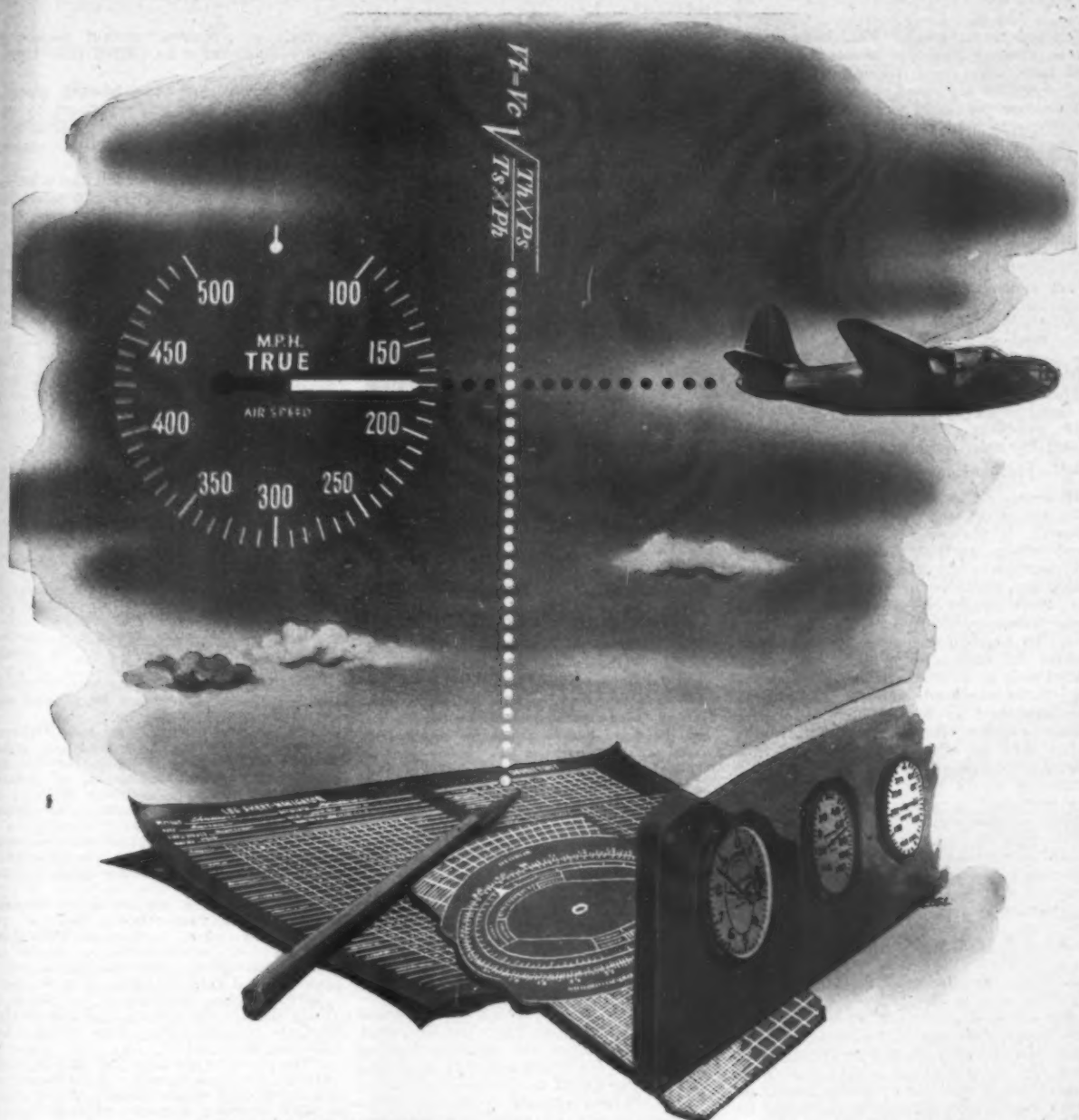
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## KOLLSMAN AIRCRAFT INSTRUMENTS

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mile, and by a greater distance as the planes proceed from the terminal. Likewise traffic from the northwest and southeast would be separated.

Therefore we need only to set up a procedure to give vertical separation between the northeast-southwesterly and the northwest-southeasterly, when passing over the field on missed approaches.

Flight altitudes flown by traffic from the southwest and the northeast would be maintained constant at say 500 feet, from a point prior to crossing the airport to a point well beyond the airport, at which time it would be safe to ascend. Flight altitudes of traffic from the northwest and southeast, from suitable points prior to crossing the airport, would initiate a climb to cross the airport at some altitude of separation say 1000 feet.

These altitudes and distances could best be established by experience and radio aids available. The method however would function as outlined.

### How About Foggy Days?

How can we get all 24 planes off to an alternate when the field closes for any reason? If the field closed for strictly local reasons, such as ground fog, sea fog, icy runways or the like, suitable alternates might be available in all directions and the traffic could be distributed among these numerous alternates. This condition could be handled easily. A definite procedure for such a case could be established such as all traffic to New York from the northeast could continue straight to the southwest to a city such as Washington and the original separation would in no way be affected by continuing on.

Similarly traffic to New York from the southwest could continue straight on to the northeast to a city such as Boston. Other inbound traffic from other directions might do likewise, but to other cities.

However in many cases when the terminal goes below limits it will be because of weather that has moved in with frontal or pressure system. In these cases, which are most numerous, a suitable alternate might only be available in one direction, such as Boston to the northeast. In this sort of situation we must get all 24 planes on their way to Boston.

For purposes of illustration only, we will assign 2000 feet as the cruising altitude for inbound traffic to New York from the northeast and southwest. With dual airways the same altitude would be safe. Traffic from the southwest would be advised to continue on to Boston at the assigned altitude of 2000 feet. All such planes still at 2000 feet, not having begun to descend for landing when field closed, would maintain their 2000 feet and proceed as though they were departing aircraft as heretofore described for missed approaches traffic inbound from the southwest that had already descended below 2000 feet would continue normal approach altitudes and procedure as though they had missed their approach and rejoin their following train of traffic at 2000 feet, and lead the line to Boston.

Transports from the northeast also would maintain their 2000 feet upon notice that the field was closed and continue on across the airport. After passing traffic inbound from the southwest traffic from the northeast would do a 180-degree turn and fall in behind traffic from the southwest for Boston.

With 3000 feet as the assigned cruising altitude for traffic inbound from the



### Spotwelding Moves Outdoors—

The possibility that spotwelding is destined to play a growing part in future maintenance and repair operations is advanced by the announcement that the Glenn L. Martin Co. recently used special portable equipment out on the flight line to attach an added .030 stainless steel part to the baffle of the PBM Mariner exhaust system. The control and transformer unit was positioned over the plane in which the welds were to be performed by a crane, and power was supplied by a special 500 foot cable feed. The company reports that the welds were of production quality.

northwest and southeast, all such planes would maintain their 3000 feet. The train of traffic from the southeast would turn right upon approaching the field and proceed along the outbound airway for Boston. Traffic from the northwest would fall in behind traffic from the southeast, as did traffic from the northeast behind traffic from the southwest. In this way all 24 ships would be to the northeast of New York and enroute to Boston within one hour and at only two altitudes. Twelve ships would be at 2000 feet and 12 ships would be immediately above at 3000 feet, in a train one hour in length.

### Landings Without Delay

Upon arrival at Boston those at 2000 feet would land straight in if Boston also had a straight-in approach established. Those at 3000 feet could be fed into some other straight-in approach channel and be landing at Boston at approximately the same time the 12 were landing down from 2000 feet. No delay would be experienced at Boston even though instrument conditions prevailed.

The greatest delay experienced by any plane took place over New York by aircraft proceeding sufficiently long enough to fall in behind the line for Boston. The greatest delay from this cause would be about 30 minutes.

The one basic fundamental of all landings from instrument approaches being made straight in from the direction of

arrival, incorporates certain factors of safety that cannot be passed over lightly. They are:

(1) Except for time spacing along a given airway, traffic is separated by mechanical plan, requiring no continuous or last minute instructions from ground stations.

(2) If communications fail the pilot has a prearranged plan that he can safely follow to the landing runway, and be more than reasonably protected.

(3) When a field closes or weather disrupts the normal flow of landings, traffic control goes on automatically for a short period.

(4) It makes unnecessary the practice of stacking traffic up over a terminal, a dangerous practice at its best. A plane over the airport at 8000 feet is actually farther away from landing than one 75 miles out that can come straight in and lands.

(5) A flight is always number one to land, every pilot's fondest dream.

## Recent CAB Orders Affecting Air Carriers

3350: Order to show cause why Eastern Air Lines mail pay should not be lowered from 60 to 32c per ton mile.

3351: Order to show cause why American Airlines mail pay should not be lowered from 60 to 32c per ton mile.

3352: Order to show cause why United Air Lines mail pay should not be lowered from 60 to 32c per ton mile.

3353: Order to show cause why Transcontinental & Western Air's mail pay should not be lowered from 60 to 32c per ton mile.

3354: Dismissing application of Central States Aviation Corp. (Docket 1117).

3355: Dismissing application of Mutual Trucking Co. (Docket 992).

3356: Amending exemption order of Pennsylvania-Central Airlines to serve Flint, Mich., and dismissing applications under Dockets 727 and 728.

3357: Dismissing application of Pennsylvania-Central Airlines (Docket 664).

3358: Granting U. S. Maritime Commission permission to intervene in the Pacific case (Docket 547 et al), and denying request of Port of New York Authority to intervene.

3359: Severing applications of Inland Air Lines (Docket 902) and Chicago and Southern Airlines (Docket 880) from Pacific Case (Docket 547 et al).

3364: Denying petition of Mid-Continent Airlines for reconsideration of CAB's decision in North Central case (Docket 415 et al).

3365: Granting Colonial Airlines leave to intervene in consolidation of Northeast Airlines route (Docket 1607 et al).

3366: Denying petition of Braniff Airways for consolidation of its application under Docket 1682 in reargument of reopened El Paso-Oklahoma City-Memphis case (Dockets 413-503 et al).

3371: Dismissing applications of Arkansas Valley Airlines, Denco Bus Lines, Magnolia Airways, Leon W. Schwarck, Southwest Airways Co., Sunshine Airlines, Watkins and Rutledge, and Texas Motorcoaches; withdrawing applications of Southwest Feeder Airlines and Frisco Transportation Co., and granting Transcontinental & Western Air, Houston and Tulsa, Okla., leave to intervene in the Texas-Oklahoma case (Docket 337 et al).

3372: Dismissing application of American Airlines (Docket 439).

3373: Approving interlocking relationships between W. P. Long and L. H. Luckey and Easair, Inc.

3374: Dismissing application of United Fruit Co. (Docket 1148).

3375: Amending service suspension order to permit Eastern Air Lines to land at Philadelphia.

## Equipment News

### Piston Ring Inspector

An Electronic Piston Ring Inspector has been designed by engineers of The Sheffield Corporation, Dayton, O., to eliminate the human element in checking piston rings and thus attain a very high degree of accuracy. The instrument automatically inspects the trueness of periphery and the width of gap of a specific size of piston ring. The piston ring to be checked is inserted inside a master ring of correct dimensional quality which is placed on the instrument table and rotated by a power-driven roller. The gaging functions are performed by scanning beams of light directed onto photo-electric cells which ener-



gize electronic circuits to illuminate three signal lights. As the ring revolves, one beam of light is projected on the periphery of the piston ring. Another beam of light scans the width of gap. A third beam of light energizes another photo-electric cell set to illuminate a red rejection signal should the width of gap be oversize. Master piston rings of known dimensional quality are used in adjusting the instrument for the desired tolerances. The instrument can be adapted to various nominal sizes, gaps of varying width, and also for variations on the allowable out-of-roundness of the periphery. Trueness of the periphery can be determined within a tolerance of .0001". With this instrument, the inspection cycle per piece is less than 5 seconds, and the production rate is determined by the speed at which the rings are presented to the gage.

### Stainless Steel Clamps

New all-stainless steel Aero Seal Hose Clamps, designed for service where conditions require highest corrosion resistance, are now in production at the Aircraft Standard Parts Co., Rockford, Ill. At present production is only in sizes M12, M16 and M20, but the line will gradually be increased to include all nominal sizes from 1/2" through 4 1/2". Although lighter and thinner, the stainless steel bands have



greater strength and flexibility than carbon steel clamps, and have the advantage of being made entirely of rust-resistant material. New engineering features include mechanically interlocked saddle which permits elimination of welds at that vital point, and increases durability and holding power.

### Pressure Gauge

Pre-oiling of engines on the B-26 Marauder prior to their initial start has been greatly improved at The Glenn L. Martin Co., by the installation of a pressure gauge on the governor pad in the nose section. Since the oil is



introduced under pressure through the aft section, any blocks in the oil system are immediately indicated on the gauge. Correspondingly a correct reading on the gauge insures that all parts are properly lubricated. Installation and removal of the gauges can be accomplished in a very few minutes, which is more than compensated by the protection provided against failure and damage to valuable equipment due to improper lubrications.

### Corrosion-Proofor

New equipment for completely handling the job of corrosion-proofing aircraft engines has been designed for aircraft engine builders by the Youngstown Miller Co., Sandusky, O. Known as the Corrosion Preventive Service



Cart. It is used to circulate a hot mixture of lube oil and rust preventive through aircraft engines following the final test run. Each cart is engineered to suit the various specific requirements of a particular type and size of engine. All carts are complete with motors, electric heaters, thermostats, controllers, pumps and filters (when required). The oil is vigorously agitated to prevent localized overheating and insure a perfect mixture. The units have from 9 KW to 125 KW of heaters. The unit pictured was built with 125 KW of heaters and a capacity for 50 gallons of oil, yet is so compact that it will go through an ordinary 30"-wide doorway.



ATLANTA The Ansley  
BIRMINGHAM The Tutwiler  
MONTGOMERY The Jefferson Davis  
MOBILE The Battle House  
NEW ORLEANS The St. Charles  
NASHVILLE The Andrew Jackson  
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CAB's Warner Forecasts:

## International Airworthiness Code Will be Supported by All Nations

Addresses Annual SAE Conference in Detroit; Crawford Heads Society

**FINDINGS** at the recent Chicago air conference furnished a foundation for a formula to standardize requirements applicable to aircraft engaged in global travel after the war, Edward P. Warner, vice-chairman of the Civil Aeronautics Board, told members of the Society of Automotive Engineers at their recent annual meeting in Detroit. Forecasting world-wide support of an international airworthiness code administered by an international civil aviation conference, Warner pointed out as a basis for his optimism that relatively few changes had been made in the last two years in the CAB airworthiness regulations and standards for engines, propellers and other equipment.

Discussing some of the more salient factors of the proposed international code, he mentioned that the draft formulated at Chicago would require a higher load factor than was included in the United States

regulations, but explained that this applied only to airplanes of a few sizes.

He emphasized the obligation of the United States to have its own recommendations for further development ready for distribution to all other participating states by May 1 would require speedy distribution of copies of draft proposals to the industry and other interested parties, and, he added, speedy completion and submission of any comments the recipients may have to offer. He urged all who feel any concern with the establishment of airworthiness standards to give Washington the benefit of their serious consideration within the next two months, or as much sooner as may be practical.

L. Welch Pogue, Chairman of the Civil Aeronautics Board, suggested that non-scheduled air transportation might be able to meet the frequent but irregular demands for air service to and from small cities more satisfactorily and economically than could a scheduled air service having the obligation to follow a fixed route regardless of the traffic on any particular schedule. He pointed out that in 1940 nonscheduled operators flew over 9,000,000 revenue miles, or 8 per cent of the 109,623,000 miles flown by the

### Crawford New President

J. M. Crawford, chief engineer, Chevrolet Div., General Motors Corp., has been elected president of the Society of Automotive Engineers for 1945, succeeding W. S. James, chief engineer, The Studebaker Corp. Newly elected SAE vice presidents include: Air Transport, William Littlewood, engineering vice president, American Airlines; Aircraft, J. L. Atwood, exec. v. p., North American Aviation; Aircraft Engine, R. W. Young, chief eng., Wright Aeronautical Corp.; Diesel Engine, W. A. Parrish, exec. eng., Superior Engine Div., National Supply Co.; Fuels & Lubricants, M. O. Teeter, exec. eng., Perfect Circle Company.

scheduled domestic carriers in the same year. In regard to scheduled operations for local feeder and pick-up service, he said that future operators will be in the market for equipment only after being awarded routes by the CAB. Cases involving the first four local route proceedings in which hearings have already been held probably will be submitted to the Board for decision between April and July of this year. He estimated that 2,000 aircraft in addition to those used on trunk lines could literally blanket the nation with air service.

H. E. Nourse, assistant to the president, United Air Lines, said the future air transport market will be restricted to distances of not less than 75-100 miles until airplane design and present mode of operation is changed to permit more efficiency. He presented figures to show that the speed of air travel on a total elapsed time basis does not offer great advantage on distances up to 75 miles, and that if air fare as well as surface costs between airports and city centers is considered, local air transport cannot compete with rail coach, bus or private auto costs on an equal basis at shorter distances.

Discussing the financing of aircraft for local air transport, Comdr. John J. Bergen, USNR, president, John J. Bergen & Co., Ltd., advocated that where the local company serves as a feeder to but one major airline, it would be to the public interest that it be owned, financed and controlled, at least so far as the equity issues are concerned, entirely by local people. Where it serves two or more major airlines, however, the public interest might not necessarily be the same, and the securities of such a company could be offered in whatever securities market they find ready acceptance and upon the most attractive terms.

James R. Kendrick, Lockheed Aircraft Corp., advanced flying busses and taxicabs to the chart and formula stage. Such vehicles, he proposed, could carry five passengers on flights of 10 to 20 miles or more at travel costs not greatly exceeding those of land vehicles. He suggested that air-cabs making hops between landing sites 5 miles or so apart for the particular purpose of saving time worth about \$2 an hour at a cost of 5-10 cents per aircab mile over the ground taxi, were entirely practical; and estimated that a 24-passenger airbus would have revenue-produc-

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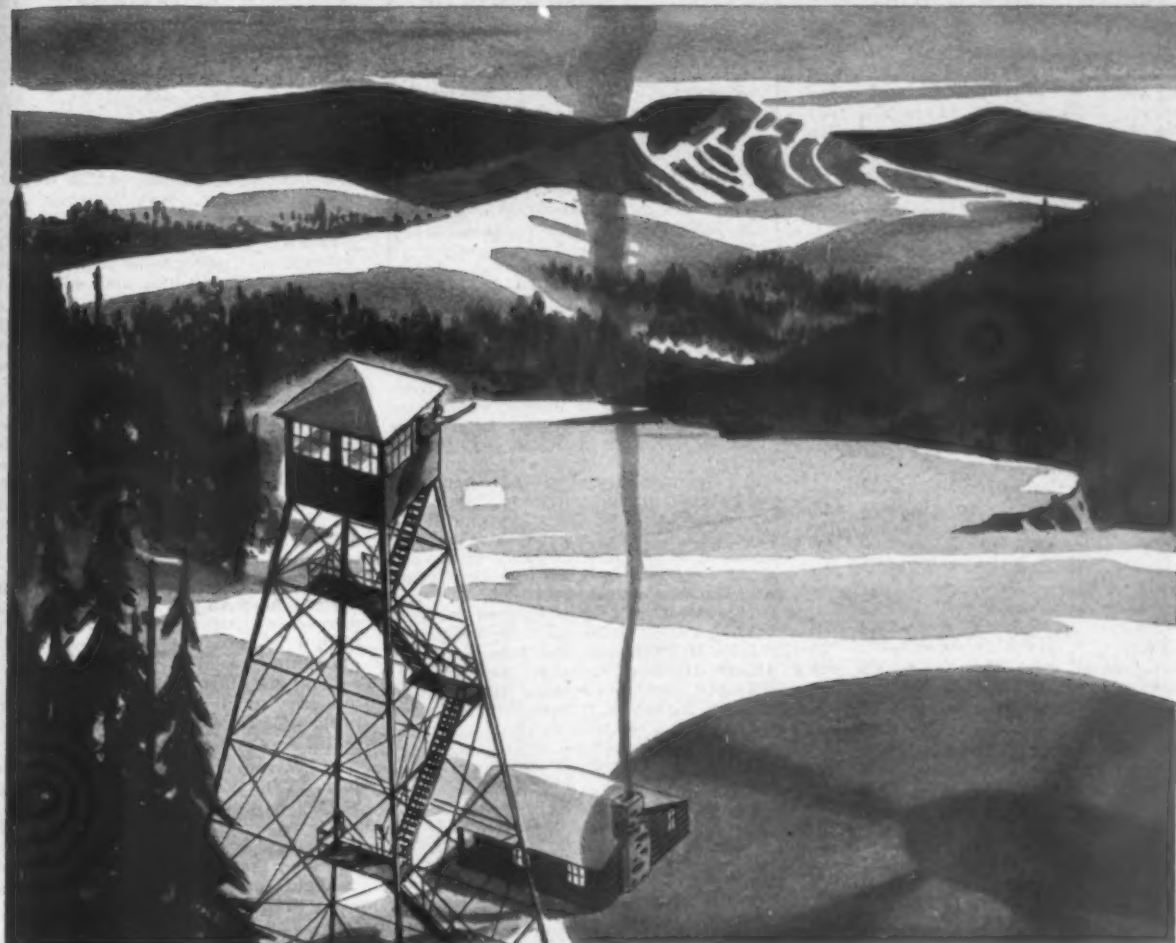
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ing capacity of between \$1,320,000 and \$2,002,000 in its 10,000-hour normal life.

Outlining what he termed the "aero-economic philosophy", Kendrick said the aircab could augment ground transportation for traveling moderate distances at high speed, for commuting from suburban areas, for collecting and distributing passengers and goods from main airline terminals and for fast pick-up and delivery of light merchandise.

He pointed out, however, that use values, revenue possibilities, and practical services of both airbus and aircab are interwoven with a complication of "aero economic factors" ranging from design to airport facilities; and presented charts and formulae designed to show the effects of alterations in factors, and indicating that, in the case of the airbus, redesign for weight reduction might make a plus difference of \$100,000 in the net value of the plane. With the aircab, it was explained, an increase in emergency climb could mean a plus difference of \$230,000.

Kendrick did not venture to predict whether these aircraft would be helicopters or planes, adding that currently more important is the availability in residential and other sections of landing sites at least five city blocks in size; but at the same time pointed out that the time saved by the aircraft which can land directly in contrast to the one that lands 2½ miles away is about 10 minutes. At the rate of \$2 an hour for time saving, this would be worth approximately \$20,000 during the life of the aircraft.

C. F. Bachle, Continental Aviation & Engineering Corp., proposed an engine-

## Lawrence Bell Gets Medal

Lawrence D. Bell, president of Bell Aircraft Corp., received the 1944 Daniel Guggenheim Medal for achievement in the design and production of military aircraft at the War Engineering Dinner in connection with the 1945 annual meeting of the SAE. William Littlewood of American Airlines, SAE representative on the Guggenheim Medal Board of Award, made the presentation.

turbine combination, with the turbine fueled by the now wasted exhaust gas of the gasoline engine, as the most efficient type of power plant for long range post-war transports. The engine-turbine combination, according to Bachle, would have the highest efficiency for long range flights at 300 mph. in that it provides the minimum weight of power plant plus fuel. Gas turbine and propeller combination and jet propulsion were given highest rating for short range cruising at 300 mph., and Bachle predicted that jet propulsion turbines might replace piston engines when higher speeds become practical. At the same session, A. P. Fraas, Packard Motor Car Co., reported on "Flow Characteristics of Induction Systems."

John M. Whitmore and John R. Burns, Allison Division, General Motors Corp., described the development of electronic instruments which not only reveal when detonation is causing engine operating roughness and wasting fuel, but which

will enable pilots to make compensating adjustments. They explained that detonation difficulties handicap the successful development of greater horsepower from existing engines, and that the by-products of detonation—increased fuel-burning rates, temperatures and pressures—contribute to engine failures by damaging pistons, piston rings, or heads. They described the application to Allison engines of a detonation pick-up or indicator which warns the pilot by lighting a neon lamp on the instrument panel.

Philip J. Costa, Sperry Gyroscope Co., reported that under some flight conditions some domestic airlines and military aircraft are wasting more than 20 per cent of their fuel, and that detonation resulting from changes in engine, atmospheric conditions and in the state of fuel in flight, plus lack of uniformity in currently refined fuels, make it difficult if not impossible to operate at maximum economy by following predetermined cruising curves. He described the MIT-Sperry Detonation Equipment which is used in flight and permits of limiting detonation by adjusting fuel mixtures to meet conditions changing with altitude, flight direction and other factors.

John W. Streett, Experimental Div., Wright Aeronautical Corp., reported that detonation detecting equipment is also helpful in revealing other operating abnormalities such as malfunctioning of valves, and that it has resulted in the discovery of broken piston rings, fractured knuckle pins and similar conditions in time to prevent serious damage.

Lt. Myron Tribus, Equipment Laboratory, ATSC, Wright Field, said that heated wings as anti-icing equipment for aircraft have proved eminently satisfactory under Army tests. Actual tests have indicated that less heat must be supplied in flight than was indicated by previous wind tunnel and dry air flight tests, he revealed.

E. J. Horkey, North American Aviation, discussed some experiences with low drag airfoils as employed on the P-51 Mustang, giving results of tests made by the Army Air Forces, the N.A.C.A. and his company, and offering certain recommendations for future developments.

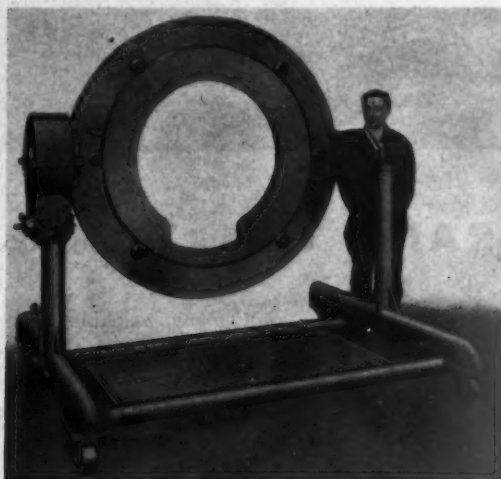
In a symposium on cockpit engineering, Kenneth C. Gordon, Boeing Aircraft Co., described the steps by which this has progressed, from the days when control cabin design and layout depended on the personalities and disposition of engineers, to the present where it must pass through miniature and full size mock-ups until satisfactory. He recommended that a committee representative of airline, manufacturing and instrument company personnel cooperatively attack the problem.

Maj. A. D. Dirksen, chief, Liaison Unit, Electrical Branch, ATSC, Wright Field, reported that steps have been taken by the Army Air Forces and the Bureau of Aeronautics to standardize on light assemblies, and that a program has been initiated to standardize both internal and external lighting installations.

## Jet, Rocket Planes at Front

The Luftwaffe now has at least four types of jet and rocket-propelled aircraft in operation over the Western front, dispatches from advanced Ninth Air Force headquarters reveal.

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# 6,912 of 27,253 Surplus Planes Sold by January 1

**December Total 641;  
Large Percentage of  
Purchasers Dealers**

**T**HE Surplus Property Board revealed Jan. 23 that 6,912 surplus planes out of a total of 27,253 had been sold as of Jan. 1. During December, 641 planes were sold and 3,862 were declared surplus.

SPB officials revealed that a large portion of the purchasers are dealers who recondition the planes and then re-sell them. A price ceiling has been placed on each plane as a means of providing the ultimate purchaser with protection against unreasonable prices. The sales are conducted on a competitive bidding basis through the Reconstruction Finance Corp.

While the largest portion of surplus

planes sold to date are light civilian-type planes requisitioned from their former owners after Pearl Harbor for use in the war training programs, an increasing number of UC-78 Cessnas are being declared surplus and the Civil Aeronautics Administration is currently studying the matter of licensing them for commercial use. The total of these two-engine utility cargo planes declared surplus as of Jan. 1 is 1,239, an increase of 381 for the month.

During December, 474 combat aircraft were declared surplus. These include planes which have been damaged beyond repair and aircraft which have become obsolete for military requirements. Some of the latter are early model B-17's. They are being held in storage until such time as manpower is available to salvage and scrap them so that component parts can be put back into use.

## 'Hot' Plane Production To Be Increased Nearly 300 Per Cent by July

**R**EVISED QUOTAS for aircraft production for 1945 call for 82,250 units as against 76,000 units forecast in October, 1944, J. W. Krug, Chairman of the War Production Board, announces. This represents a 9 per cent increase in the number of units and a slightly less than 9 per cent increase in airframe weight. Production of the newer and urgently needed types including the B-29, C-54, B-17 and B-24 extensions, Navy fighters, and new jet aircraft will rise nearly 300 per cent from a monthly dollar volume of \$367,000,000 in October, 1944 to \$925,000,000 in the second quarter of 1945.

Declaring this means a tremendous job for some companies, he said that the Boeing Renton plant was being asked to step up B-29 production from 35 per month in December, 1944 to 200 a month in July, 1945, and that all B-17 production would be closed out of this plant and absorbed by Douglas and Lockheed, bringing about a 25 per cent increase in the B-17 quotas for those companies. He revealed that the Boeing plant in Wichita was already turning out B-29's at a rate of 100 a month, and that Bell-Marietta and Martin-Omaha were likewise operating under stepped-up schedules at the present time. B-24 Liberator production at Ford-Willow Run will be maintained

at its present rate under the revised schedules, he said, and, if anything, production may be increased.

Concurrently with his announcement of the stepped up schedules, Krug made public the following statement from the National Aircraft War Production Council pledging the full support of its member companies in meeting the expanded schedules:

"In support of your determined effort to meet all war production schedules in 1945, the presidents of the major airframe manufacturing companies in the U. S. who comprise the National Aircraft War Production Council, Inc., have unanimously expressed their views as follows: 'The turn of military events in Europe has demonstrated that American industry cannot afford to relax in its efforts toward victory. We offer renewed assurances to the armed services and to the War Production Board that we will allow nothing to interfere with our determination to keep our military production schedules. We feel that intensified efforts by our fighting men in both the European and Asiatic fronts will be matched in the intensity of work by our own industrial forces. We believe we speak for our employees in pledging increased vigor in the war production program.'"

## North American Gets New Fighter Contract

In competitive bidding for production of a new restricted Lockheed fighter plane for the Army Air Forces, North American Aviation, Inc., was the successful bidder and will produce them in large quantity at its Kansas City plant.

Meanwhile, North American is rushing preparations to get into production a large number of Fairchild C-82 cargo planes at its Dallas, Texas, plant for the Army.

## Bell-Marietta Plant Due to Boost Output Of B-29s Threefold

Brig. Gen. Kenneth B. Wolfe declared recently that the AAF's Air Technical Service Command expects the Bell-Marietta, Ga., plant to increase its output of B-29 Superfortresses three-fold during 1945.

Gen. Wolfe's expectations were voiced to members of the Aviation Writers Association who made a tour of the \$50,000,000 plant.

Wolfe declared that the Bell-Marietta division produced more than its scheduled quota of B-29's in December, but that it not only must maintain this quota, but accomplish new production schedules set by the AAF.

"This plant is not merely the greatest industrial installation in the deep south, it is one of the great industrial installations of the world," he said.

Lawrence D. Bell, president and general manager of Bell Aircraft Corp., characterized the Marietta plant as a "three-billion-dollar gamble on the B-29," which he said took courage and sympathetic help from the south to establish.

He described the plant as the largest built in the U. S. for aircraft production.

Ground was broken for the plant on March 30, 1942, and production began in Dec. 1943. Total area embraced is 2830 acres of land, and the total floor area of all buildings is 4,234,429 square feet.

The Marietta plant is unusual in that it delivers a completely modified plane, ready for combat duty when it rolls off the production line. The company uses a system of installing modifications in the production line rather than put in obsolete parts and then later install new ones.



**Final Stages in Making B-29s**—This interior photograph of the main assembly building of the Bell-Marietta, Ga., plant shows B-29s in the final stages of production. This building covers 3,248,000 square feet.

WHAT'S  
OUR NEXT  
FLYING  
LESSON,  
TOM?

LET'S DO A  
"STALL" AND  
RECOVER  
FROM IT!

IN AN AIRPLANE "STALL," UNLIKE  
AN AUTOMOBILE STALL, THE  
ENGINE CONTINUES TO RUN.  
A "STALL" GIVES YOU THE  
"FEEL" OF THE PLANE.



WE'RE HIGH ENOUGH.  
LET'S LEVEL OFF AND START  
THE STALL BY EASING BACK  
ON THE STICK AND THROTTLE.



WE HOLD THE STICK WAY  
BACK UNTIL THE PLANE LOSES  
FLYING SPEED. WE KEEP THE  
NOSE HEADED STRAIGHT WITH  
THE RUDDER PEDALS.



WHEN THE NOSE FALLS BELOW  
THE HORIZON, PUSH THE STICK  
FORWARD TO GAIN SPEED.



AS FLYING SPEED IS REGAINED,  
WE EASE THE STICK BACK TO  
RESUME STRAIGHT AND LEVEL  
FLIGHT. RETURN  
THE THROTTLE  
TO CRUISING.



IT'S REALLY  
EASY TO FLY  
A PIPER  
CUB!

IT SURE IS, MARY  
NO WONDER IT'S  
AMERICA'S MOST  
POPULAR PRIVATE  
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Visual Aids, Extension Services, Penn-  
sylvania State College, State College,  
Pennsylvania.

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1. How long does it take to  
learn to fly a Piper Cub?  
8 hours instruction required be-  
fore soloing.

2. Is travelling in a Piper  
Cub expensive?  
No, it's the most economical of  
all accepted forms of transpor-  
tation.

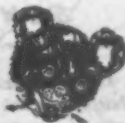
3. Will peacetime Piper Cubs  
be sold on the installment  
plan?  
Yes, like the auto, one-third  
down, easy monthly payments.

This lesson and others that will follow explain only the fundamentals. See your Piper Cub  
dealer for actual flying instruction. Write us "Plane Quiz" questions you want answered.

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## Over-the-Counter Securities

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

Airlines	Jan. 13		Jan. 20	
	Bid	Asked	Bid	Asked
All American Aviation .....	9 1/4	9 3/4	9 1/4	9 3/4
American Airlines pfd. ....	.....	.....	.....	.....
Am. Export Airlines .....	27 1/2	29	27 1/2	29
Braniff .....	19 3/4	19 1/2	18 3/4	18 1/2
Chicago & Southern com. ....	15 1/4	15 3/4	15 1/4	15 3/4
Chicago & Southern wts. ....	7 1/4	7 3/4	7 1/4	7 3/4
Continental Airlines .....	11 1/4	12	11 1/4	12
Delta Air .....	22	.....	23	.....
Inland Airlines .....	3 3/4	4 1/4	3 1/4	4 1/4
Mid-Continent .....	8 3/4	8 1/2	9 3/4	9 1/2
National .....	18 3/4	18 1/2	18 1/4	18 3/4
Northeast Airlines .....	31 1/4	31 3/4	30 1/4	30 3/4
<b>Manufacturers</b>				
Aeronca .....	4 3/4	5	4 3/4	5
Air Associates .....	.....	.....	12 3/4	12 3/4
Aircraft & Diesel .....	1 3/4	2 1/4	1 3/4	2 1/4
Aircraft Accessories .....	.....	.....	7 1/4	7 3/4
Airplane & Marine .....	6	6 1/2	6	6 1/2
Airplane Mfg. & Supply ....	1 3/4	2	2 1/4	2 3/4
Central Airports .....	1/2	1	1/2	1
Columbia Aircraft .....	3 1/4	3 1/2	3 1/4	3 1/2
Continental Aviation .....	3 3/4	3 1/2	3 1/4	3 3/4
Delaware Aircraft pfd. ....	.....	.....	.....	.....
General Aviation Equipment	1 1/4	1 3/4	1 1/4	1 3/4
Globe Aircraft .....	1.10	1.30	1.10	1.30
Harlow Aircraft .....	1/2	1/2	1/2	1/2
Harvill Corp. common .....	1 3/4	2 1/4	1 3/4	2
Interstate Aircraft & Eng. ..	11	11 1/2	10 1/2	11
Jacobs Aircraft .....	.....	.....	4 1/4	4 1/2
Kellett Aircraft .....	1 3/4	2	1 3/4	1 3/4
Kinner Motors .....	1 1/4	1 1/4	1.15	1.30
Liberty Aircraft .....	12 1/2	12 3/4	12	12 1/2
Luscombe .....	2 1/4	2 3/4	2 1/4	2 3/4
Menasco Mfg. ....	1 1/4	1 3/4	1 3/4	1 3/4
Northrop Aircraft .....	.....	.....	7 1/2	7 3/4
Piper Aircraft common .....	3 3/4	4	3 3/4	4 1/2
Piper Aircraft pfd. ....	39 1/2	.....	39	.....
Pittsburgh Aviation Ind. ....	.....	.....	.....	.....
Rohr Aircraft .....	8 1/2	8 3/4	8 1/4	8 3/4
Std. Aircraft Pds. ....	.70	.85	1/2	1
Taylorcraft common .....	3	3 1/4	.....	.....
Taylorcraft pfd. ....	6 3/4	7 1/4	6 3/4	7 1/4
Timm .....	.50	.60	.50	.58
United Aircraft Prod. pfd. ....	17 1/2	18 1/2	17 1/4	18 1/2

## New Route Applications

(Continued from page 66)

sued an order denying the carrier this authority. Eastern Air Lines has filed objections to the inauguration of the service. National also has filed an application for an extension of route from Pensacola, Fla. to Philadelphia, via Montgomery, Ala.; Atlanta, Ga.; Greenville, S. C.; Asheville, N. C.; Roanoke, Va.; Charlottesville, Va.; Washington, D. C. and Baltimore. (Docket 1710) T. E. Baker, president of National, said the flying time from Pensacola to Atlanta would be one hour and 57 minutes, to Philadelphia seven hours and 45 minutes, if National's present equipment—Lockheed Lodestars—is used. The proposed extension would link in, Baker said, with National's existing routes, New Orleans, Key West and Miami, via Tampa and Jacksonville to New York City. National indicated a willingness to serve additional points if the Board found such service was required in the public interest.

### State Airlines, Inc.

This applicant of P. O. Box 1862, Charlotte, N. C., today applied with the CAB for a certificate of convenience and necessity to operate four routes between the terminal points Charlotte, N. C., and Chattanooga, Tenn.; Norfolk, Va., and Columbia, S. C.; Wilmington, N. C., and Montgomery, Ala., and between Savannah, Ga., and Montgomery, Ala. The applicant is presently engaged as a non-scheduled operator. (Docket 1711)

### Trans-Eastern Airways

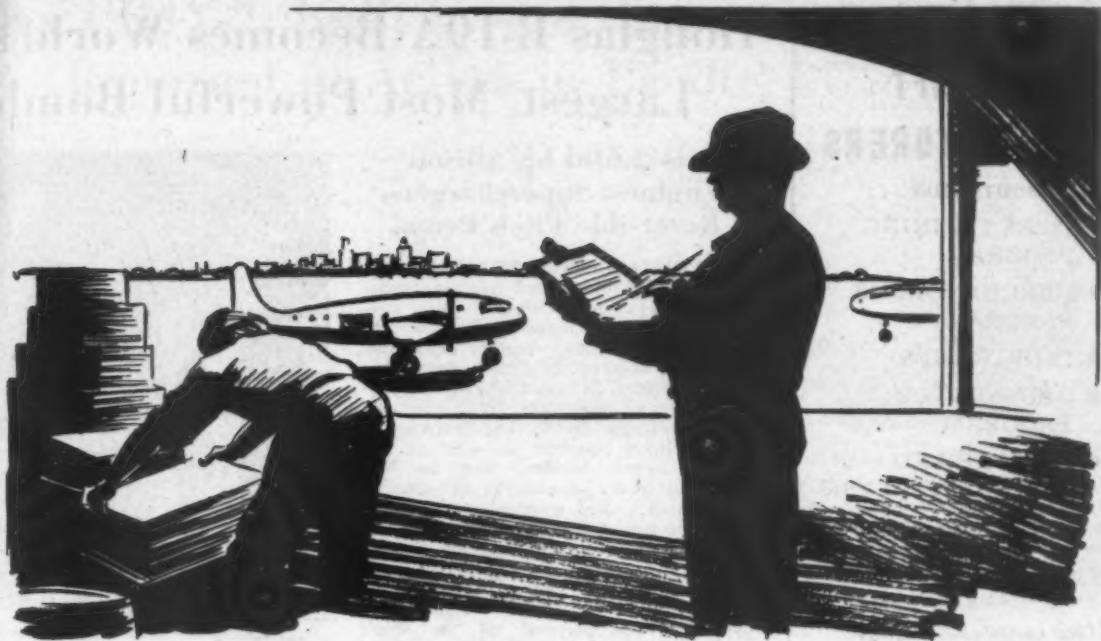
This applicant has filed an amendment to its application under Docket 1667, outlining proposals to use twin-engine Beechcraft and four place Fairchild in its feeder operations. Later, service will be provided with the Douglas Skybus. The amendment designates three routes between the terminals, Norfolk, Va., and Tallahassee, Fla. Nineteen intermediate points would be served on Route 1, 21 on Route 2, and 11 on Route 3.

### Oceanic Steamship Co.

Oceanic Steamship Co., San Francisco, filed an application to supply through air service in coordination with its regular steamer services between the Pacific coast and Australia, via Honolulu. Oceanic proposes to provide air service between the co-terminals Los Angeles and San Francisco and Sydney, Australia, via Honolulu, Palmyra, American Samoa, Fiji, and Auckland, New Zealand.

### U. N. Airships

This applicant has filed an amendment to its application under Docket 1600, recently heard in the South Atlantic case, proposing service by rigid airships between Washington and Bombay, India, via Recife, Brazil; Rio de Janeiro, Buenos Aires, Cape Town and Mossambassa.



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## Douglas B-19A Becomes World's Largest, Most Powerful Bomber

**Gets 2,600 hp Allison  
Engines, Superchargers,  
Reversible Pitch Props**

THE INSTALLATION OF 2,600 hp Allison 3420 liquid cooled engines, turbo-superchargers and reversible pitch propellers on the Douglas B-19A, world's largest experimental bomber, has just been announced by the Fisher Body Division of General Motors Corp., which performed the modification. With the new installations the B-19A has become the world's most powerful as well as the world's largest bomber, and the first American heavy bomber to be powered with liquid cooled engines.

The project, begun at Romulus Army Air Field and completed at the Fisher-Cleveland Aircraft plant, has increased the 80-ton bomber's power by approximately 30 percent, made possible high-altitude operation, and stepped up the ship's speed, range and load-carrying capacity. The B-19 was originally built to carry an 18-ton bomb load or 124 fully-armed men. It has a wingspread of 212 feet, 50 percent greater than that of the B-29 Superfortress, and an overall length of 150 feet, 25 percent longer than the Navy Mars.

Actually, flight testing of the giant plane with the new installations was begun in January, 1943, and on its first flight it made an exceptionally fast take-off. Original restrictions on speed were relaxed to accommodate the high speeds in level flight obtained with the new power plants. The ship was then flown to Cleveland for additional work on the engines and nacelles.

In April, 1944, later model Allison engines, new turbo-superchargers and new propellers were installed, and other engineering changes made. On August 29



**Dwarfed by Tire**—A plant protection officer guarding the B-19A is dwarfed by one of the 8-foot tires of the 80-ton bomber. The B-19 has a wingspread of 212 feet, an overall length of 150.

the ship was returned to Wright Field for additional flight testing which has revealed that the new installations not only provide considerable improvement in the ship's performance, but in addition have boosted its load-carrying capacity.

Since delivery a few years ago, the B-19 has been used by the Army as a flying laboratory to provide a testing ground for improvements to equipment of AAF bombers now in active combat throughout the world.



**Largest and Most Powerful**—Close-up of the new engine installation on the Douglas B-19A shows two of the four 2,600 hp Allison 3420 engines which make it the world's most powerful bomber. Note the new longer nacelles built to accommodate the in-line power plants, first to be installed in an American heavy bomber.



# Navy PB4Y-2, Built by Convair, Reported in Action in Pacific

and slinger-ring anti-icer equipment. The starting system comprises combination inertia and direct-cranking starters, separately-mounted induction vibrators and electric solenoid primer valves. Consolidated Vultee's new hot-air system is

## Maximum Flight Range Is Considerably Over 3,000 Miles, Says Navy

THE NAVY has announced that the PB4Y-2, termed the "Privateer," has been in action against the Japs, and simultaneously has released performance and specification data relating to this heavy land-based patrol bomber which was built for the Navy by Consolidated Vultee Aircraft Corp.

The PB4Y-2 is a cantilever-wing monoplane with improved Pratt and Whitney twin wasp engines, a semi-monocoque fuselage, a single-rudder tail assembly, retractable tricycle landing gear, and 12 machine guns. The plane flies with a gross weight of 62,000 to 65,000 pounds and has a maximum speed of more than 250 mph. The Navy said its maximum flight range is considerably over 3,000 miles and that the plane would be used for search and photographic missions, anti-submarine patrols, and bombing raids.

Aviation writers recently saw the plane performing during tests on the west coast.

The original PB4Y series was merely a modified version of the Liberator B-24. The "Privateer" is an entirely new design whose only important resemblance to the Liberator is its Davis high-lift wing. In contracting for this plane, the Navy sought to obtain a plane with greater search efficiency, more fuselage space and a different type of armament. The fuselage is seven feet longer than that of the original Liberator, has six power-operated gun turrets to increase its effectiveness on long range search missions without fighter protection. Each turret is equipped with two 50 caliber machine guns.

### Flight Tested in 1943

The Navy's Bureau of Aeronautics and Consolidated Vultee completed contract negotiations for the new aircraft in May, 1943, and work on three prototypes began almost immediately. After four months, on Sept. 20, a new experimental production record was made when the first prototype received its initial flight test. The second and third prototypes were flown on Oct. 30 and Dec. 15, 1943 respectively.

In building three prototypes of the PB4Y-2, one of the most unusual assembly tooling programs ever undertaken in an American aircraft factory was commenced. Virtually every recent innovation for mass production of aircraft was incorporated in the program, and consequently PB4Y-2 production is currently considered the most efficient aircraft manufacturing project in the world, officials stated.

A striking feature of the "Privateer" is the single-rudder tail assembly, with a huge dorsal fin which extends 26 feet in height when the plane is parked. The plane is said to have satisfactory balance, control and stability in all normal loading conditions and this empennage is said to create considerably less drag than the double-rudder tail assembly of the PB4Y-1. The fixed tail surfaces are non-



**New Land-Based Patrol Bomber**—This is the PB4Y-2, built for the Navy by Consolidated Vultee Aircraft Corp. The single tail assembly and side gun turrets distinguish it from the Navy PB4Y-1. This new bomber has a top speed of more than 250 mph and a range of well over 3,000 miles. The fuselage is seven feet longer than that of the original Liberator.

adjustable metal structures, while the movable tail surfaces are aluminum-alloy frames covered with fabric. Controllable trailing edge trimming tabs are incorporated in both elevators and the rudder.

The flight deck of the PB4Y-2 is above and slightly aft of the bombardier's compartment. It is equipped with side-by-side seats for the pilots, dual rudder pedals and control column, a control pedestal, and a complete assortment of flight instruments.

Redesigned Pratt and Whitney twin wasp engines give the plane a low fuel consumption record and considerably more horsepower at takeoff, company officials stated. Each engine has a three-bladed Hamilton Standard Hydromatic Propeller

used for cabin heating and to prevent air-foil icing conditions on the PB4Y-2. This system employs exhaust heat exchangers to warm air, which is distributed through ducts to all parts of the airplane.

On normal missions the PB4Y-2 bomb bays will carry 6,000 pounds of bombs or depth charges.

## Fourteen Conestogas Are Declared Surplus

The Surplus Property Board has announced that 14 Budd RB-1 Conestoga stainless steel cargo planes, manufactured for the Navy by the E. G. Budd Manufacturing Co. in Philadelphia and Bustleton, Pa., have been declared surplus.



**New Army Fledgling**—The Waco CG-15A, shown at Washington National Airport, is now on its way to the fighting fronts. Larger than the CG-4A, it can accommodate 16 men or 4,000 pounds of cargo, and is more suitable for towing by fighter planes.

## WPB Amends Order P-47 To Save Paper Work

In one of its first major actions, the new Aircraft Division of the WPB has moved to eliminate a great deal of paper work on the part of airlines seeking priorities assistance for the purchase of maintenance, repair and operating supplies by amending Order P-47 so that operators need make but one application on Form WPB-1747 for authorization of a dollar value quota for MRO purchases for the entire year 1945.

Form WPB-1747, under the order as amended Jan. 12, may also be used as an interim application if the airline's needs for MRO should increase during the year through the acquisition of additional planes or some other unforeseen expenditure; and for requests for controlled materials and items requiring specific requirement of preference ratings.

## Thunderbolt Cost Reduced

Cost of the P-47 Thunderbolt to the AAF, exclusive of government-furnished equipment, has been reduced from an original figure of \$68,750 to \$45,600 per plane, according to Republic Aviation Corp. The company credits reduced man hours—from 22,927 in 1942 to 6,290 per ship in Sept. 1944; engineering changes, and voluntary repayments and price reductions by scores of subcontractors and vendors.

## Collins Prepares Test Facilities

Collins Radio Co., Cedar Rapids, has acquired a C188 Beechcraft and is letting contracts for the construction of a hangar and laboratories at the Cedar Rapids municipal airport. The facilities will be used to flight test and prove new and advanced designs of radio equipment by actual installation and use in aircraft, and for service to customers. A staff of about 40 scientists, engineers and laboratory assistants will conduct special research and development work in the new laboratories.

## Manufacturing Roundup

### Army Increases Commando Orders

New Army orders placed with the Buffalo and Kenmore, N. Y., plants of the Airplane Division of Curtiss-Wright Corp. will cause a 50 per cent increase in production of the C-47 Commando between June and the end of the year.

### Convair Gets 31,000 Suggestions

Employees of the 13 divisions of Consolidated Vultee Aircraft Corp. submitted 31,000 suggestions to speed production, of which 6,350 were adopted for use throughout the plants during 1944. Awards of \$110,530 were given to the 3,800 employees whose suggestions were accepted. San Diego led with 850 suggestions saving approximately 824,000 man hours, and Fort Worth was second with 597 saving more than 463,000 man hours. Total savings were sufficient to build 2,000 Navy Liberators, according to the company. At the same time, 1,600 cost improvements submitted by supervisory personnel at the San Diego plants saved more than \$3,000,000, and 725 proposals adopted by the Vultee Field division saved more than \$3,000,000.

### \$1,150,000 from Trash Bins

Savings of over \$1,150,000 have been made from trash bins and even floor sweepings at the Fort Worth plant of Consolidated Vultee Aircraft Corp. during the last year. Every item, large or small, is scanned by salvage experts before being discarded. Large parts are separated from small, and steel from aluminum in an automatic machine, and sorters, at specially built tables, do the rest.

### New Cafeteria at Lockheed

A new \$400,000 cafeteria, owned and operated by employees of Lockheed Aircraft Corp., has been opened at Lockheed Factory A-1. The new eating place is owned and operated by Lockheed's Employee's Recreation Club, of which every company employee is a member, and is capable of serving 8,000 to 10,000 hot meals a day. Funds for construction and furnishing were donated to the Recreation Club by the company.

### Ryan Gets Manifold Orders

New contracts placed with the exhaust manifold division of Ryan Aeronautical Co. for systems to be used on Boeing B-29 Superfortresses and Grumman fighters bring Ryan's 1945 backlog of manifold business to more than \$11,000,000. The latest order from Boeing is for \$1,143,000, and from Grumman for \$1,000,000. These are in addition to previous orders from these companies on which Ryan already is at work.

### To Build P-51 in Australia

Production of the P-51 Mustang fighter is to be started in Australia under license granted by North American Aviation. Complete sets of component parts, sub-assemblies and accessories along with detailed drawings and engineering photographs has been furnished the Commonwealth Aircraft Corp., of Melbourne, in accordance with licensing terms worked out with the Commonwealth of Australia through the Army Air Forces. The same company is already building another North American plane—the AT-6 Texas trainer, known in Australia as the Wirraway—under a similar arrangement.

### Hughes Leases Test Land

Hughes Aircraft Co. has leased seven acres of filled-in land at Long Beach Harbor on which to prepare facilities to test fly its huge eight-engined flying boat. The land has been leased for three years with an option of renewing for an additional two years. A company spokesman pointed out that actual testing of the giant all-wood cargo plane was still months away, as it would take at least 90 days to build the launching site, and following that, sections of the giant craft would have to be transported to Long Beach for final assembly.

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STRONGER

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Bounds

Lou

Donald Douglas, president of Douglas Aircraft Co., has been invited to serve on the Business Advisory Council of the Department of Commerce for 1945.

J. H. "Dutch" Kindelberger, president, and J. L. Atwood, first vice president of North American Aviation, have been awarded 10-year service pins at a ceremony inaugurating the company's service recognition system. At a dinner for top supervision, Kindelberger awarded 10-year pins to 25 additional men with up to 19 years service with North American and its antecedent companies.

Capt. James R. Lane, former test pilot for Republic Aviation Corp. and now in the Army Air Forces, has been assigned to the 12th AAF P-47 Thunderbolt fighter-bomber group, according to a dispatch from the 12th AAF Fighter Base in Italy.

Hugh Allen, public relations authority on lighter-than-air transportation, has been awarded a diamond studded service pin in recognition of his 25 years with Goodyear Tire & Rubber Co. and Goodyear Aircraft Corp.

Howard S. Kittel has been named superintendent of a newly created B-32 modification department at the Fort Worth division of Consolidated Vultee Aircraft Corp. He was previously assistant plant engineer at Fort Worth.

A. M. Hall, formerly manager of the Elizabeth City Division of Consolidated Vultee Aircraft Corp., has been appointed manager of Convair's Miami Division, succeeding L. H. Cooper, now in charge of the New Orleans Division. Hall was formerly president of Hall Aluminum Aircraft, and has been connected with the aviation industry since 1920.

Alfred H. Marshall has been elected a vice president and director of United Aircraft Service Corp., a subsidiary of United Aircraft Corp.



Kindelberger



Atwood



Stevens



Diesel



Chamberlin



Sponsel



Hall



Pollack



Lane



Marshall

Nils H. Lou, formerly factory manager, has been advanced to assistant to the vice president-manufacturing, of the Glenn L. Martin Co. He is succeeded by Robert Young, former assistant factory manager. Norman Stewart, previously superintendent of Army Division, has been promoted to assistant factory manager, and he in turn has been succeeded by Robert Bounds, previously night superintendent of Army Division.

Norman T. Shaw, for six years director of procurement and subcontracting at Bell Aircraft Corp., has been appointed manager of the Outside Production Division of Ryan Aeronautical Co. Other Ryan appointments include: A. R. Parsons, formerly with Goodyear, as manager of the Master Planning Division; C. W. Sponsel, formerly a project engineer with General Motors, as manager of Production Engineering; and Gerald M. Story, previously with Curtiss-Wright and Glenn L. Martin, and W. O. Chamberlin, Jr., previously with Consolidated Vultee, as staff assistants to vice president O. L. Woodson, respectively handling production follow-up, and procedures and organization control.

Richard H. Diesel, for the last three years manager of the war contract service department, has been appointed manager of aircraft and automotive sales for Yale & Towne Manufacturing Co., Stamford Division, with headquarters in Detroit.

Harry L. Stevens has been transferred from the Elizabeth City division of Consolidated Vultee Aircraft Corp. to the Miami division to assume the post of traffic superintendent.

Monroe W. Pollack, Metropolitan Division manager of United States Plywood Corp., has been elected a vice-president. He has been with the company since 1921.

S. R. Carpenter, since last June acting chief engineer, has been appointed chief



Stewart

Young



Kittel



Allen



Parsons



Shaw



## Advertisers In this Issue

Advertiser	Page
A.I.S., Inc. ....	70
Aeroquip Corporation .....	Third Cover
Aircraft Mechanics, Inc. ....	12
Allison Division, General Motors Corp. ....	63
American Airlines, Inc. ....	25
American Aviation Directory .....	80
American Export Airlines, Inc. ....	31
Aviation Associates .....	82
Aviation Enterprises, Ltd. ....	81
B-H Aircraft Co. ....	82
Beech Aircraft Corp. ....	59
Bendix Aviation Corp., Scintilla Magneto Division .....	39
Bendix Aviation Corp., Stromberg Carburetor Division ....	36
Boeing Airplane Co. ....	16
Breeze Corporations .....	26-8
Braniff Airways, Inc. ....	11
Chandler-Evans Corp. ....	51
Collins Radio Co. ....	54
Consolidated-Vultee Aircraft Corp., Stinson Division .....	44-45
Continental Motors Corp. ....	33
Cox and Stevens Aircraft Corp. ....	84
Delta Air Lines .....	47
Dinkler Hotels Company, Inc. ....	73
Dow Chemical Co. ....	29
Ethyl Corporation .....	7
Fairchild Engine & Airplane Corp. ....	77
Flightex Fabrics, Inc. ....	84
Goodyear Aircraft Corp. ....	3
Guiberson Diesel Engine Co. ....	6
Hayes Industries, Inc. ....	5
Jack and Heintz .....	14-15
Kellett Aircraft Corp. ....	75
Kollsman Instrument Co., Inc. ....	71
Koppers Co., Bartlett-Hayward Division .....	53
Northrop Aircraft, Inc. ....	27
Parks Air College .....	67-73
Piper Aircraft Corp. ....	79
Radio Receptor Co., Inc. ....	65
Rand McNally & Co. ....	74
Republic Aviation Corp. ....	2d Cover
Rotol, Ltd. ....	13
Ryan Aeronautical Co. ....	35
Scott Aviation Corp. ....	57
Sensenich Brothers .....	80
Standard Oil Co. of California ....	42
The Texas Co. ....	Back Cover
Vickers, Inc. ....	8
Vokes, Ltd. ....	69
Whiting Corp. ....	76
Wittak Mfg. Co. ....	61
Wright Aeronautical Corp. ....	26-A



Fenwick

Beardslee

engineer of the Vultee Field Division of Consolidated Vultee Aircraft Corp. He succeeds J. L. Fletcher who has been transferred to the San Diego Division.

James B. Ford, for the last year chief engineer, has been elected vice-president in charge of engineering of Doak Aircraft Co., Torrance, Calif. Patricia R. Summerbell was named assistant secretary, and Karel Mansfield assistant treasurer.

K. F. Leaman, formerly works manager of the New Orleans Division of Consolidated Vultee Aircraft Corp., has been named works manager of that company's Elizabeth City Division.

Hugh Fenwick, recently general sales manager for Aviation Corp., has joined Hughes Aircraft Co., Culver City, Calif., as general sales manager. He was formerly vice president in charge of sales for Vultee Aircraft Co., and vice president of Curtiss-Wright Corp.

Furlonge H. Flynn has been appointed service manager, and Henry N. Igo assistant service manager of Pratt & Whitney Aircraft Div. of United Aircraft Corp. Flynn, formerly assistant service manager, succeeds John L. Bunce, now chief engineer of Pratt & Whitney Aircraft of Missouri. Igo was formerly in charge of field service.

W. H. Beardslee has joined the engineering staff of General Tire and Rubber Company's Aviation Division as project engineer in charge of aircraft wheels and brakes. He has been in aviation engineering for 17 years, most recently with McDonnell Aircraft Corp.

Ralph B. Gunderson, author of the Brakeman's Handbook, has been appointed sales manager of the Brake Division, Aireon Manufacturing Corp., with headquarters in Chicago.

Hugh C. Robbins has resigned from Waco Aircraft Co., Troy, O., where he recently organized and directed a sepa-



Flynn

Igo

rate Termination Division. He will announce his future plans shortly.

Charles A. Potter, formerly West Coast aviation representative for Texaco, has joined Wright Aeronautical, Ltd., as service engineer for the West Coast office at 6030 Wilshire Blvd., Los Angeles.

Robert McCulloch has been named division manager at North American Aviation's Dallas plant, succeeding Harold F. Schwedes who has been reassigned to the manufacturing manager's staff at Inglewood. McCulloch was formerly assistant manufacturing manager at Inglewood.

## Classified

**WATCHES WANTED.** Broken or usable, all kinds, even Ingersolls, highest prices paid for jewelry, rings, spectacles, alarm clocks, razors, cigarette lighters, gold teeth, etc. Cash mailed promptly. Lowe's Holland Bldg., St. Louis 1, Mo.

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